

# Innovating for the Future

2021 – 2026 Strategic Plan

CU Board of Regents Meeting  
September 10, 2021



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

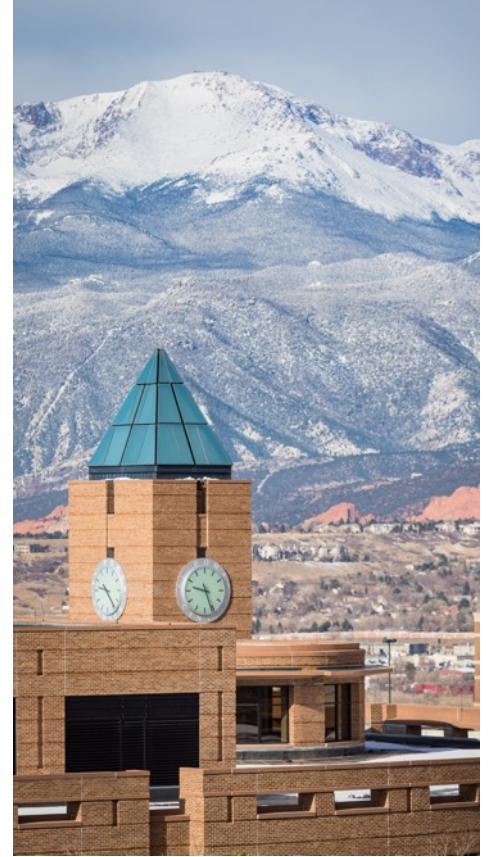
Draft 6  
September 09, 2021

## Fulfilling CU's Mission

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From 2019–2021, the University of Colorado conducted a collaborative and inclusive strategic planning process to identify common themes that would help guide the university for the next five years and beyond. Priorities identified collectively by stakeholders involved throughout the process will advance CU's Mission.

*“The University of Colorado is a public research university with multiple campuses serving Colorado, the nation, and the world through leadership in high-quality education and professional training, public service, advancing research and knowledge, and state-of-the-art health care.”*



# STRATEGIC PILLARS

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## PILLAR 3



### Diversity, Inclusion, Equity & Access

The University of Colorado celebrates and recognizes the strength of diverse communities and perspectives. We are committed to creating an inclusive culture in pursuit of goals of excellence and meeting the needs of the state, nation and world.

## PILLAR 1



### Affordability & Student Success

The University of Colorado is devoted to helping our students reach their full potential. The focus areas within this pillar encourage the intellectual, personal and professional development of our students.

## PILLAR 4



### Fiscal Strength

The University of Colorado focuses on improving policies, procedures and practices to ensure current and future sustainability, highlighting financial management and risk management.

## PILLAR 2



### Discovery & Impact

At the University of Colorado, we believe research and healthcare are keystones to advancing knowledge, inspiring innovation, fostering creativity and improving the quality of life for Coloradans.



## Strategic Focus Area Metrics with Goals and Initiatives

### **Focus Area: Research/Scholarship/Creative Work**

- Research Funding

### **Focus Area: Healthcare**

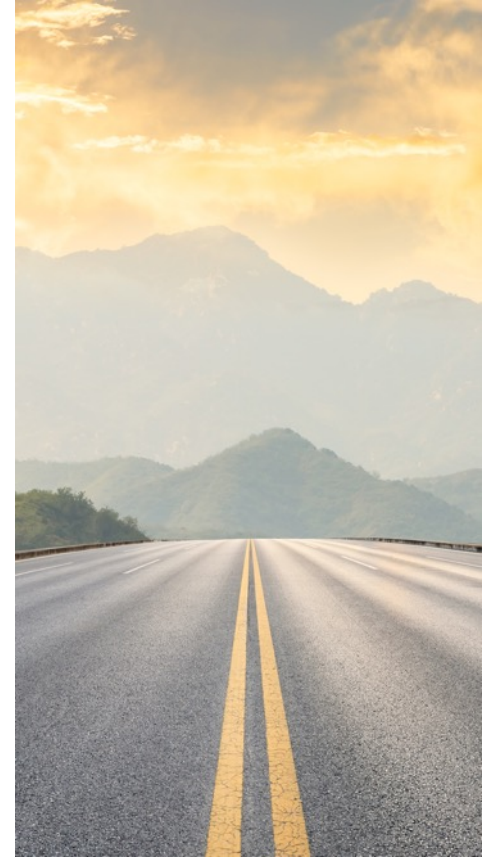
- Patients Served by CU Anschutz Clinical Faculty



# Discovery & Impact Panelists

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- **Martin Dunn, PhD.**, Interim Chief Research Officer & Dean and Professor, College of Engineering, Design and Computing University of Colorado Denver
- **Jessi Smith, PhD.**, Associate Vice Chancellor for Research, Research Integrity Officer, and Professor of Psychology, University of Colorado Colorado Springs
- **Terri Fiez, PhD.**, Vice Chancellor for Research & Innovation, University of Colorado Boulder
- **Thomas Flaig, MD.**, Vice Chancellor for Research, University of Colorado Denver and Anschutz Medical Campus and Professor & Robert Rifkin Endowed Chair, Division of Medical Oncology, CU School of Medicine
- **Michael Lightner, PhD.**, Vice President Academic Affairs, University of Colorado



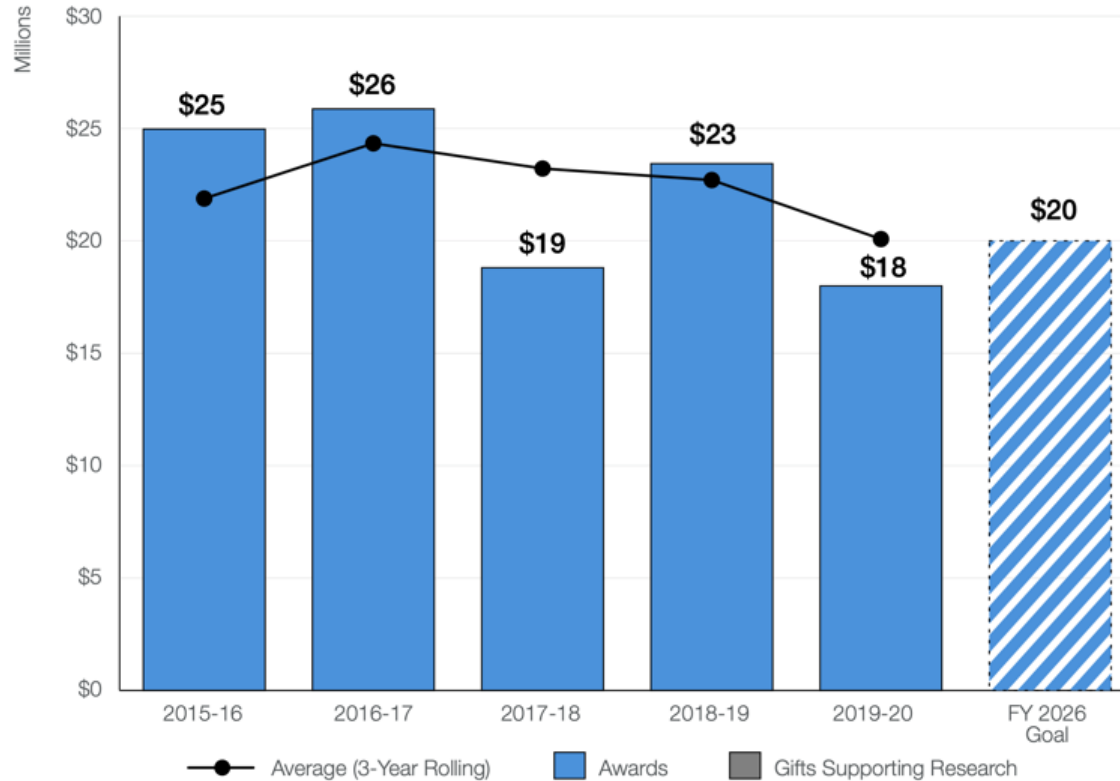


University of Colorado **Denver**

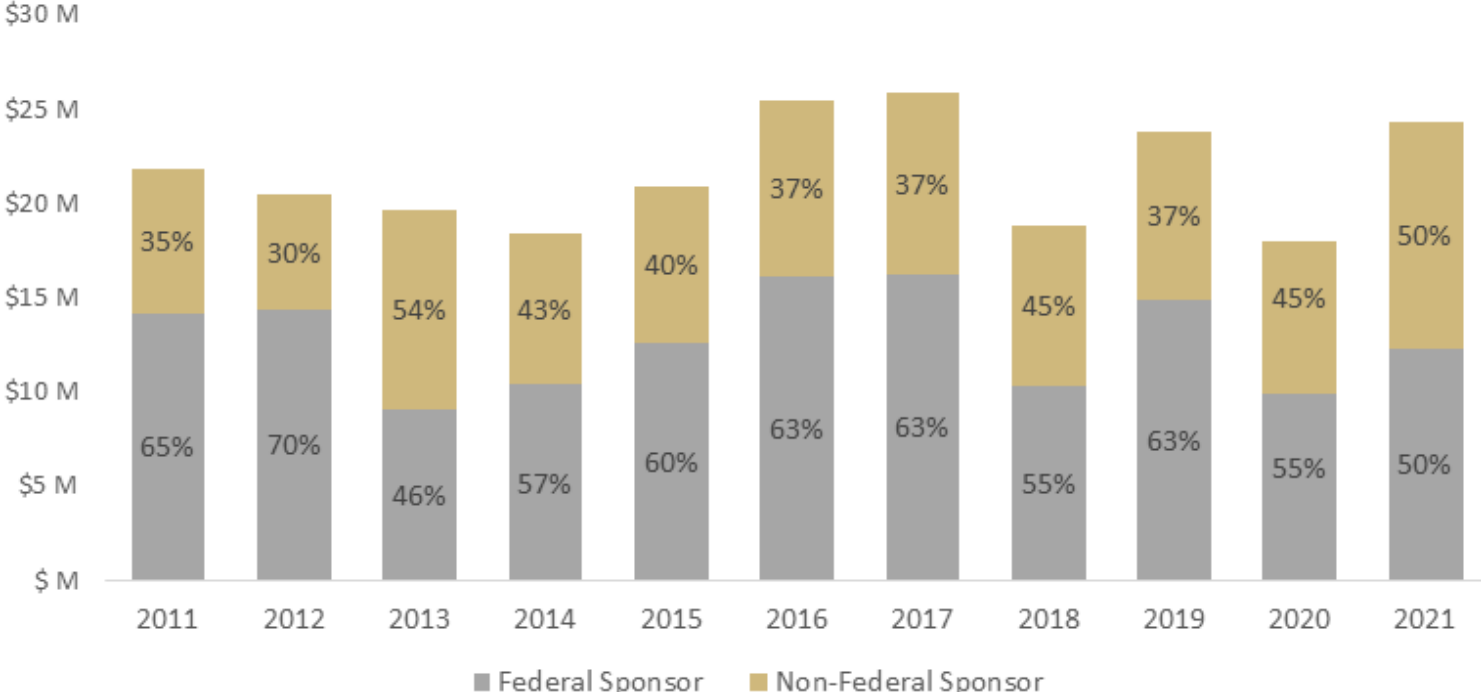


**CU IN THE CITY**

# CU Denver Sponsored Research Award Goal



# CU Denver Sponsored Research Funding





# How We Will Get There

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- Our responsibility and opportunity as a **Hispanic Serving Institution (HSI)** and **Asian American Native American Pacific Islander Serving Institution (AANAPISI)**
- Focus – **five grand challenges, interdisciplinary teams, partnerships** – to grow research funding, impact, and reputation.
- Invest in research **leadership, performers, administration, and culture.**



## GOAL 3 | **RESEARCH**

**CU DENVER WILL BE INTERNATIONALLY KNOWN FOR ITS RESEARCH AND CREATIVE WORK IMPACTING FIVE OF SOCIETY'S GRAND CHALLENGES.**

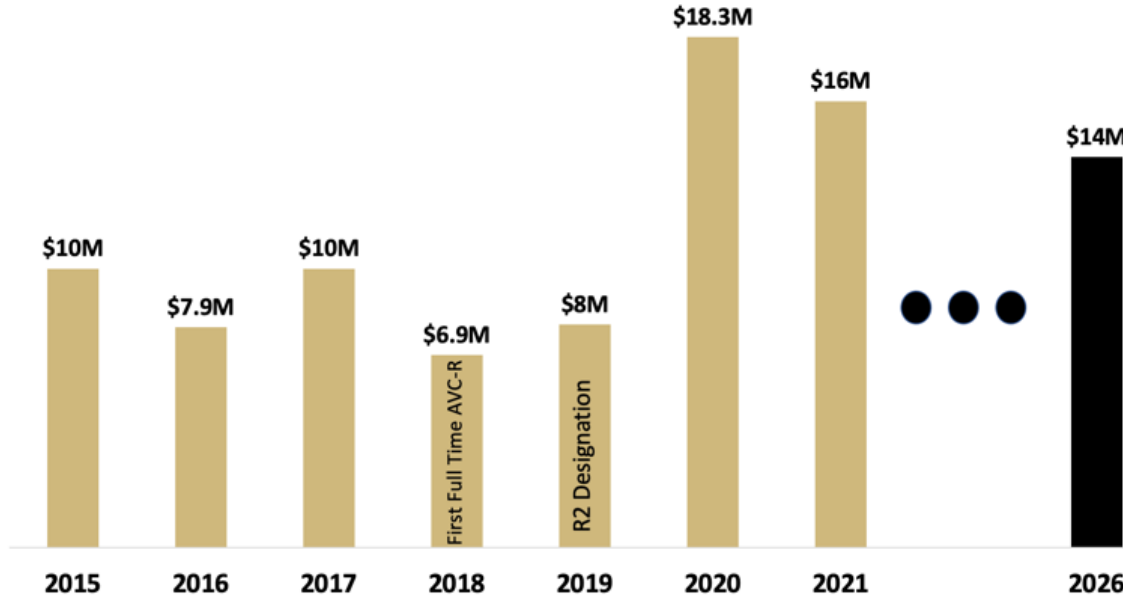
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**Jessi L. Smith, Ph.D.**  
**Associate Vice Chancellor for Research**



# UCCS Research Funding and Goals

Three-year average already meets our 2026 goal



1. Increase funding by 10%/year
2. Grow Peer Reviewed/Juried Dissemination Outputs
3. Grow Ph.D. Graduation Rates

## Spotlight on Cybersecurity/NSI at UCCS



121

Ph.D. and Master's Graduate Students currently Enrolled in Cyber-related programs



40%

of FY21 Funding Secured by our Cyber/Security Affiliated Researchers

# Spotlight on National Security & Cyber at UCCS



**Research** - Creating world class knowledge, developing cutting edge techniques, and improving national security systems and tools

**Partnerships** - Disseminating knowledge and elevating our impact by partnering across the CU System, industry, military, and local and national supporters and stakeholders

**Student success** - Growing the next generation of the cybersecurity workforce through innovative education, hands-on research, internships, and scholarships

# National Security Initiative & Cyber at UCCS - Looking Ahead

**Kevin W. O'Neil**  
Cybersecurity Education  
and Research Center

United States  
**Space Force University**  
Partnership Program

Partnering and housing  
**NCC Space ISAC**  
(Information Sharing  
and Analysis Center)

Participating in the Air  
Force Office of Scientific  
Research **Western Hub**

Growing Undergrad and  
Graduate Education and  
Building the **Cyber**  
**Workforce**

Leadership from our  
new **Gallogly Chair**  
Professor in  
Cybersecurity

Improving physical and  
research security  
**infrastructure** with CU  
System Support

Leveraging the  
**Engineering Research**  
Council Expertise and  
Connections

**Collaborations among**  
**our CU Campuses**

Research

Partnerships

Student Success

## A Powerful Convergence of Research & Technical Collaborators



FOUR CAMPUSES UNITED  
ALL FOUR: **COLORADO**

**DEFENSE  
CONTRACTORS**

Lockheed-Martin  
Ball Aerospace  
Sierra Nevada  
Northrop Grumman  
Raytheon  
L3-Harris  
many more

33 federally-funded  
labs in CO (with a  
\$2.5B impact)  
Air Force  
Army  
Navy  
NGA  
NRO  
NSA  
DOE

**ACADEMIA**  
University of  
Colorado  
CU Boulder  
CU Anschutz Medical Campus  
CU Colorado Springs  
CU Denver

**GOVERNMENT**





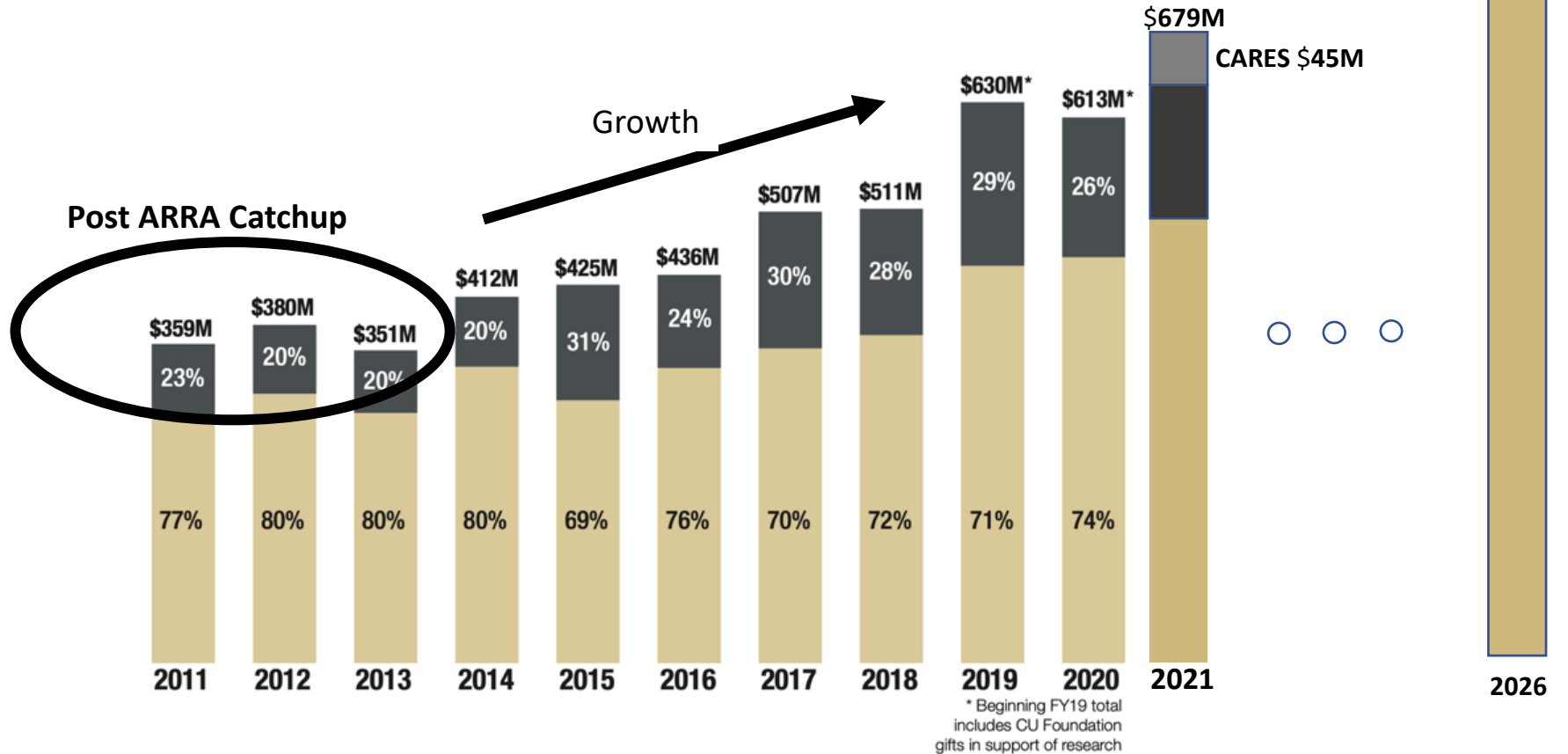
# RESEARCH & INNOVATION

Terri Fiez, PhD., Vice Chancellor for Research & Innovation

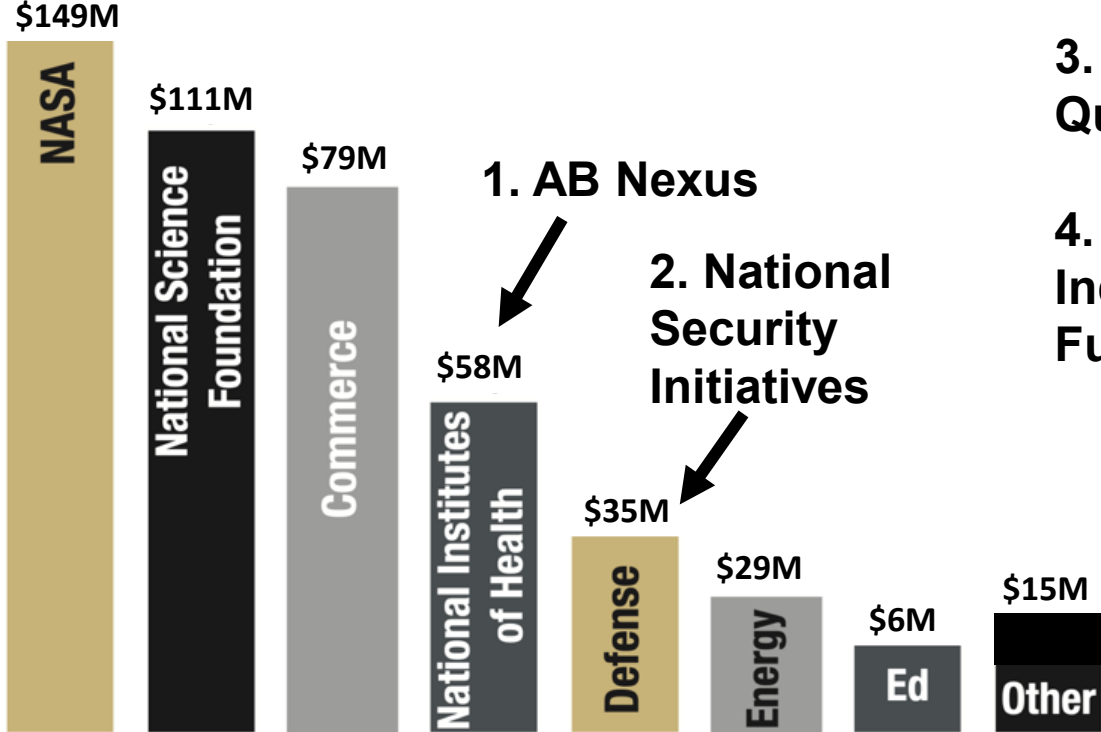


University of Colorado **Boulder**

# Research Funding Target 2026



# Federal Funding Source Breakdown FY21 → Strategic Opportunities



3. Target Fed Priorities  
Quantum, AI, Materials, etc.

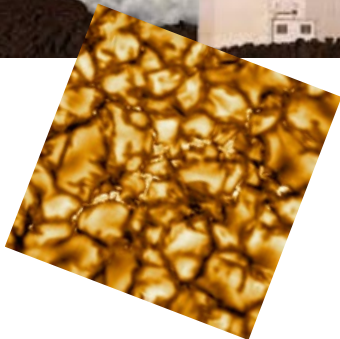
4. Reorg to Grow  
Industry & Foundation  
Funding



# Exploration as Inspiration

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**National Solar Observatory  
Daniel K. Inouye Solar Telescope**  
*First Light December 2020*



**LASP EMM HOPE Mission to Mars**



**MOSAIC**

**Multidisciplinary drifting Observatory for the Study of Arctic Climate**



**Largest Polar Expedition in History**

# CU Boulder Research Strengths



## **Vision:**

Become a recognized leader in meeting the nation's top Defense and Intelligence research and workforce needs

## **Mission:**

- Bridge the gap between CU's space research and DoD/IC missions
- Conduct multi-disciplinary & innovative research supporting national security
- Expand access to the University of Colorado's world-class intellectual capital
- Develop an adaptive workforce for the national security enterprise
- Build the infrastructure to accelerate controlled and classified research

# NSI | CENTER FOR NATIONAL SECURITY INITIATIVES



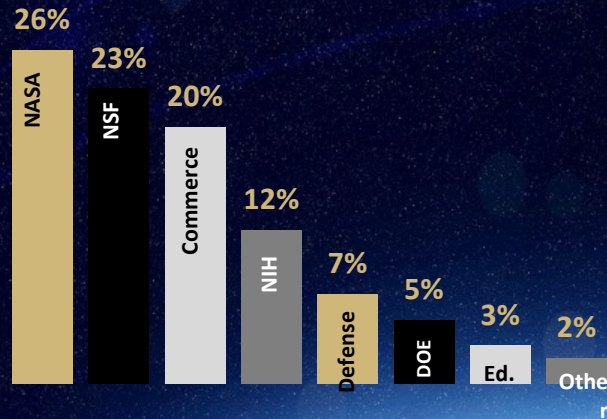
The Center for National Security Initiatives (NSI) addresses advanced capability needs of the Department of Defense and the Intelligence Community with leading-edge, high impact research

## NSI Core Capabilities

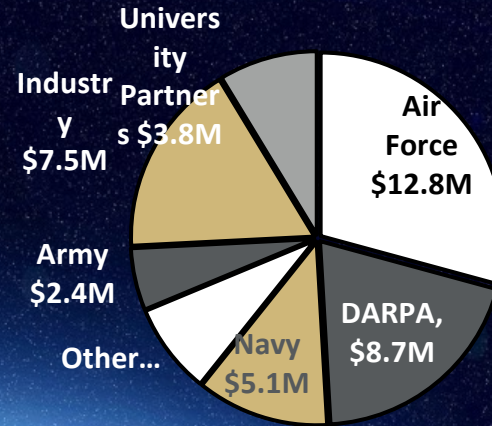
- ✓ Geospatial Data Analytics
- ✓ Autonomous Systems
- ✓ Space Domain Awareness
- ✓ Positioning, Navigation & Timing
- ✓ Hypersonics
- ✓ RF Engineering
- ✓ Remote Sensing
- ✓ Quantum Technologies
- ✓ Space Weather
- ✓ Small Sat Technologies
- ✓ Materials Science
- ✓ Human Performance

# CU's Growing Emphasis on National Security Research

**\$613M** Total Research at CU



**118** Defense Projects  
**\$43M** Awarded in FY20

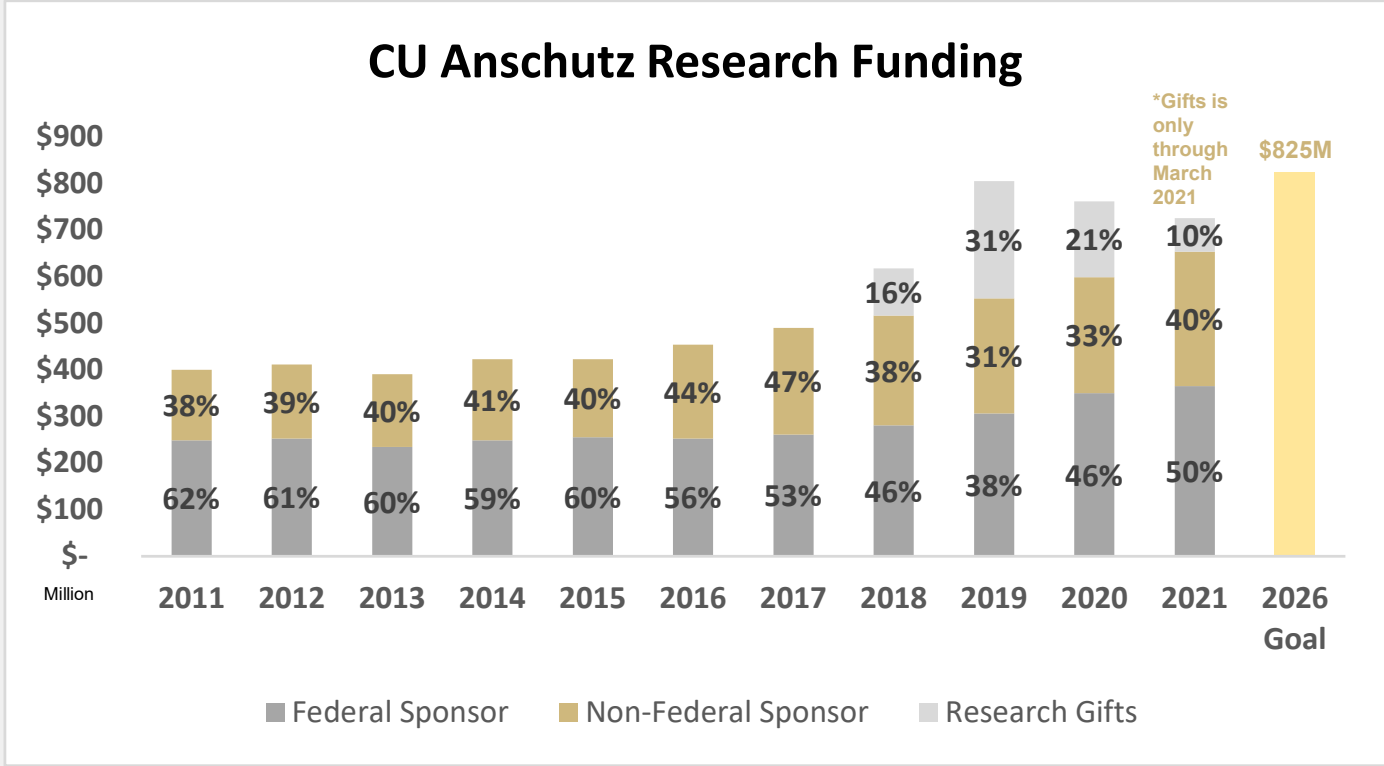


# CU Anschutz Medical Campus

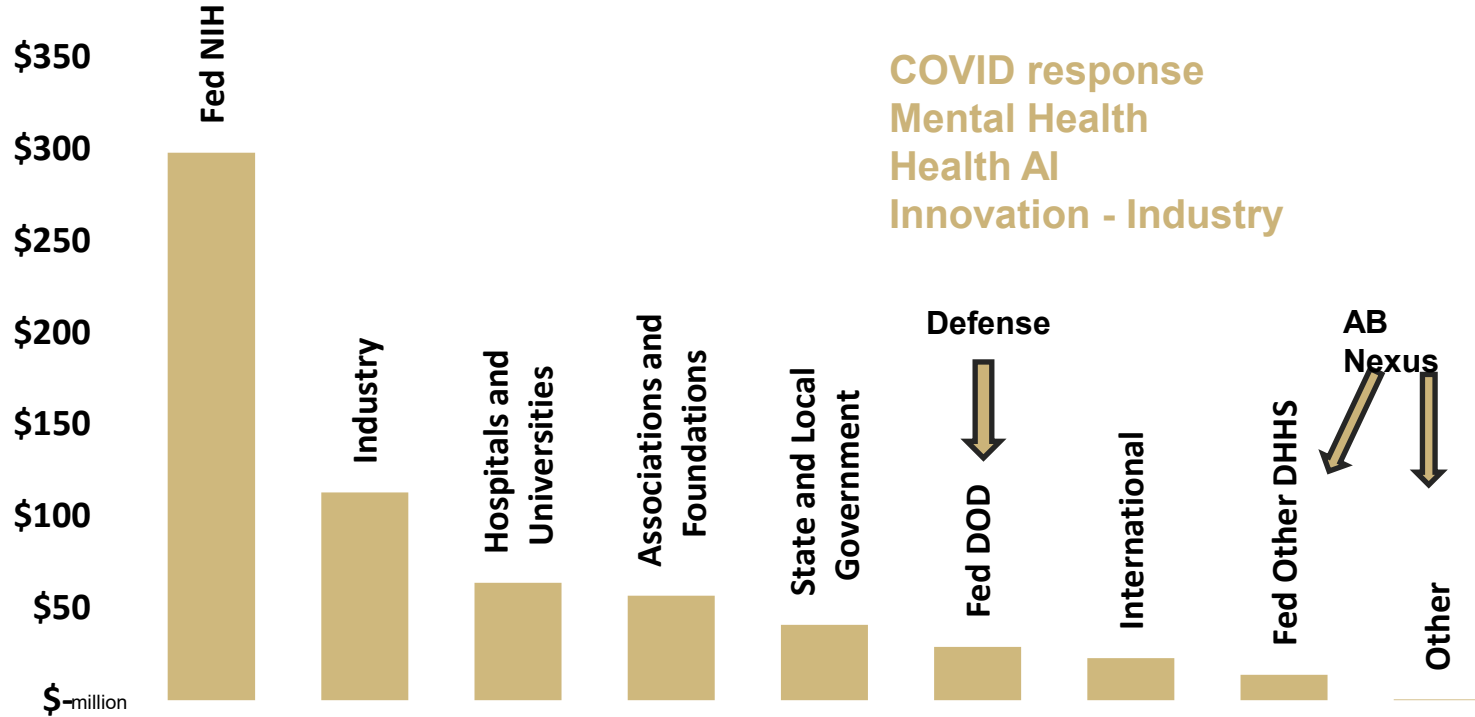
## Thomas Flaig, MD



# CU Anschutz Research Funding

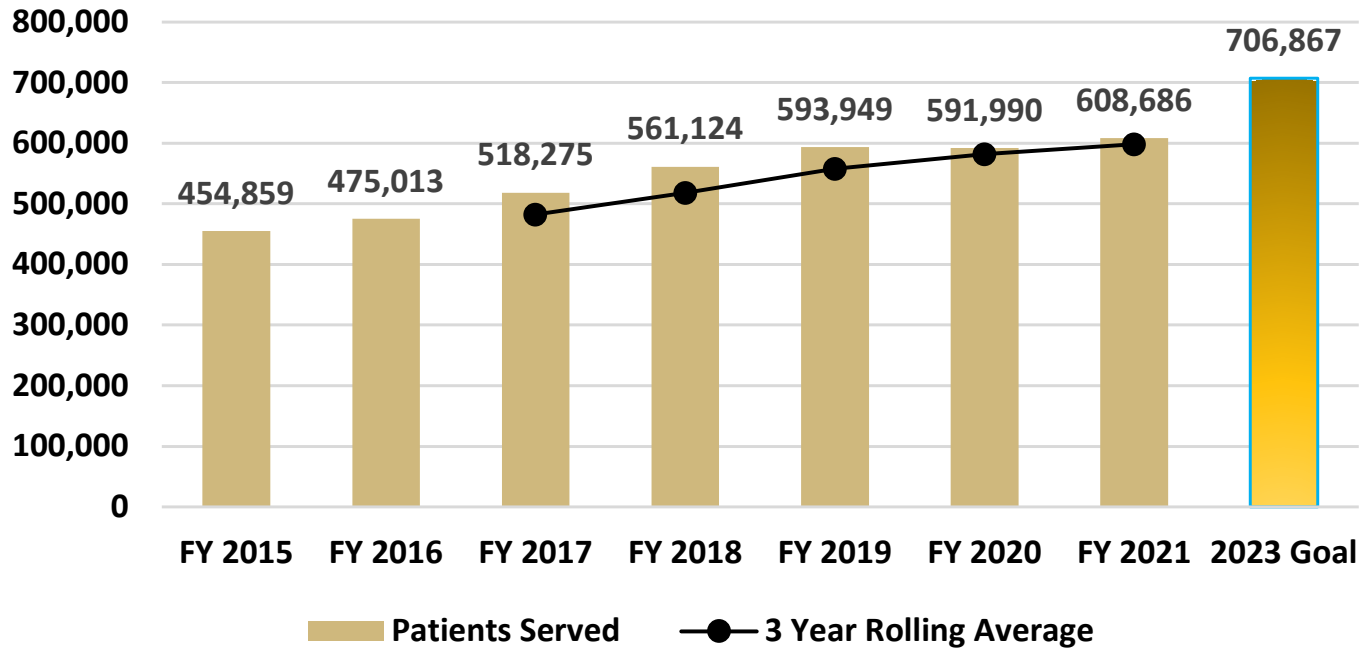


# CU Anschutz Research Funding Breakdown





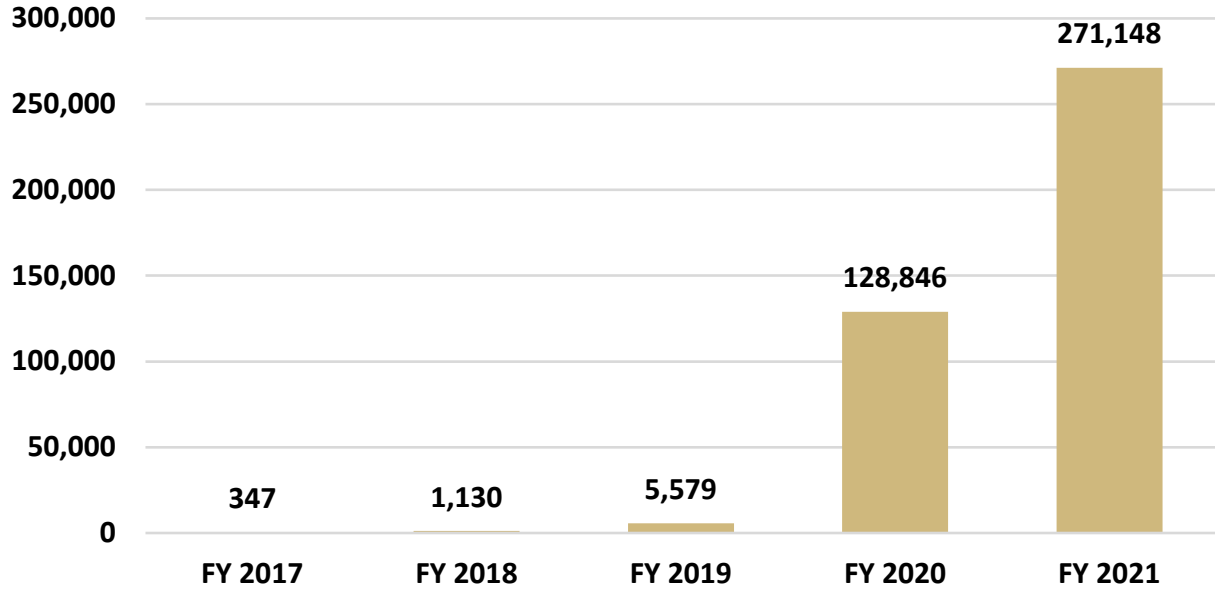
# Patients Served



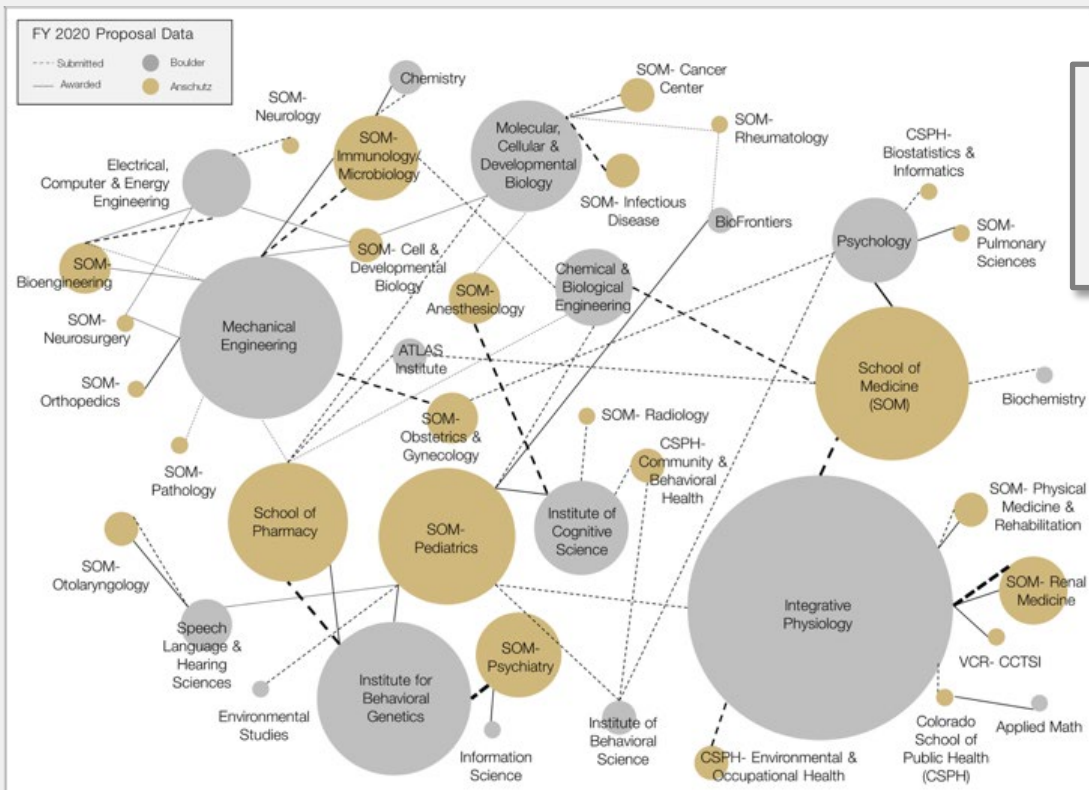
The number of patients served by CU Anschutz Clinical Faculty



# Telehealth Interactions



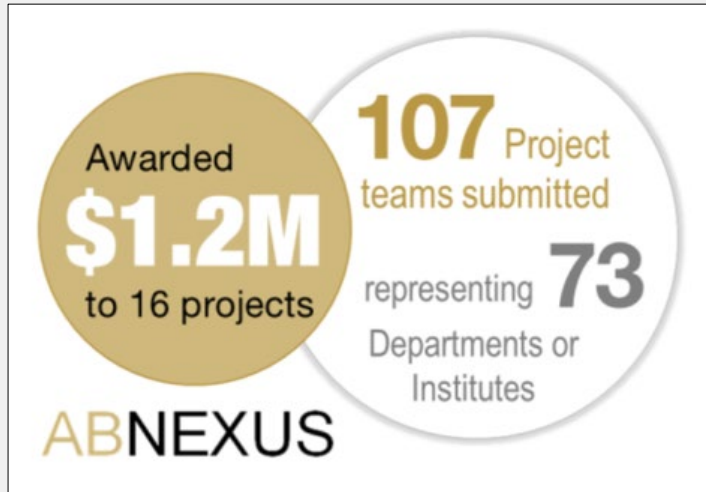
# ABNEXUS Joint External Proposal Submissions and Awards



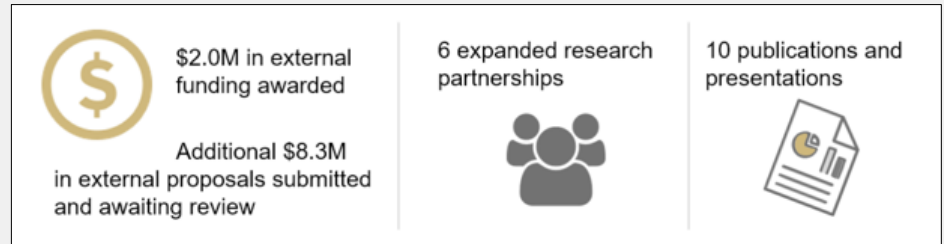
*Generate knowledge that improves human well-being and spurs innovation and economic development*

# ABNEXUS

Spring 2021



- Collaborations
  - New - \$50k
  - Existing - \$125k
  - Co-sponsorship with CU Cancer Center
- Funding
  - Each campus provided an additional \$200k in response to strong interest
  - 55% increase over planned budget



# ABNEXUS

## Action Steps & Impact

*Grow external Funding by \$29M by 2024*



**Award \$2.3M  
through bi-annual  
collaborative grant  
program  
(FY 2021 – 2023)**



**Increase  
collaborative  
proposals to external  
funders**

Identify relevant calls,  
support teaming, and provide  
proposal development  
support

Increase proposal  
submissions by at least 20%  
per year

Achieve 25% win rate by FY  
2024



**Enhance  
connectivity between  
campuses**

At least 2 collaborative  
events per year

Research Partnership  
Specialists help individuals  
and groups

Continue to identify potential  
“cosponsors” to leverage  
campus resources



**Communicate  
research activities to  
grow AB Nexus  
community**



# Conclusion

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- Goals established that will grow CU reputation
- Strategic focus areas that leverage strengths of campuses
- Collaboration: The whole is greater than the sum of the parts



## Question & Answer

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Question 1: What do you need to tell the Discovery and Impact story that advances each campus?

Question 2: What else can we share with you about our Discovery and Impact efforts?





University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus



# Appendix



## ABNEXUS Off to the Races...

### Results to Date

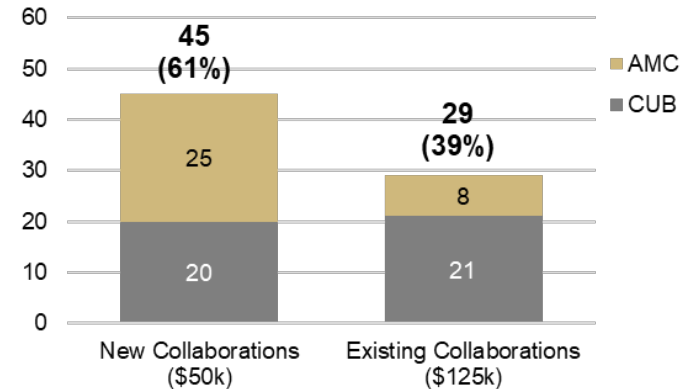
- Master Collaboration Agreement executed between campuses
  - Expedites joint proposal review by offices of grants and contracts
  - No F&A on first \$25k of direct costs for intercampus proposals
- Awarded \$675K in collaborative grants
- Increased externally awarded collaborative proposals over historical baseline values
  - \$2M increase in FY 2020
  - On pace to realize \$3M in FY 2021

**Goal: Grow external Funding by \$29M by 2024**

### Proposal Analysis

- 74 full proposals received
- 61% New Collaborations (\$50k)
- Even participation across campuses

### Proposals by Campus and Award Track





## Systemwide focus on supporting national security

**CU NSI**

**National Security Institute**

Develop and transition foundational research to mission application in the national security domain for Department of Defense and Intelligence Community.

**Diversified Funding Streams**

- University Affiliated Research Center
- Industry collaborations
- US government solicitations
- World-class faculty hires

**CU Support**

- President Kennedy's national security advisory board
- CU Boulder investment
- Lobbying efforts
- Involve all campuses
  - Space medicine at CU Anschutz
  - Manufacturing at CU Denver
  - Cyber at UCDS

**Donor Investment**

- World-class faculty hires in strategic areas of investment
- Specialized defense acquisition-trained staff hires
- Research seed funding
- New facilities, secure systems, etc.

**SPACECOM in Colorado**

- Colorado Springs current location for provisional headquarters
- Colorado military spouse support bill
- US Senate Space Force Caucus
- Defense Innovation Board

University of Colorado Boulder

V I S I O N

[colorado.edu/researchinnovation/nsi](https://colorado.edu/researchinnovation/nsi)



Back to Metrics with Goals and Initiatives

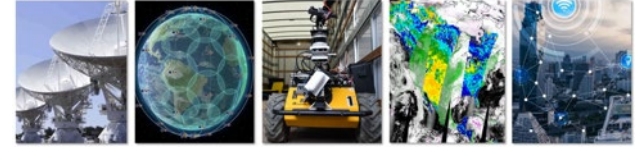


## National Security Investment

### Intercampus Cybersecurity Research Security & Compliance

- Support the development of CMMC and research security infrastructure to strengthen the research infrastructure in cybersecurity at Boulder, Anschutz, Denver, and UCCS.
- \$350k/year for 3 years to hire 2 IT professionals to build security & CMMC platform.
- Form a System-wide Research Security working group to address the needs of all campuses.
- Staff will initially reside at CU Boulder (CUB have already invested in 4 staff) and work with each campus to adapt relevant research security & CMMC protocols and processes.

Center for National Security Initiatives



## Cybersecurity



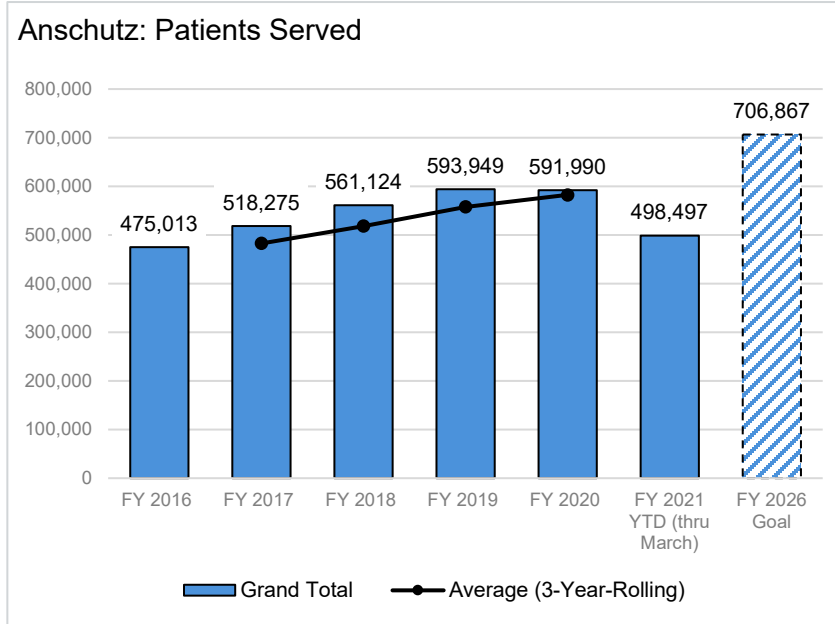
\*CMMC (Cybersecurity maturity model certification) required for all future DOD grants



Back to Metrics with Goals and Initiatives



## Anschutz Clinical Faculty

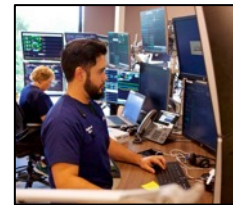


The number of patients served by CU medical care providers per year.

Source: CU Anschutz Medical Campus; CU Medicine; Chancellor's Office; Updated May 2021;

## Action Steps

1. Expand services to additional populations (e.g., URM, FQHC)
2. Increase marketing efforts
3. Increase telehealth services and remote patient monitoring



[Back to Metrics with Goals and Initiatives](#)