

Committee Minutes

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

Inn at Virginia Tech, Latham Ballroom CDEF

3:00 p.m. – 5:30 p.m.

November 7, 2021

Committee Members Present: Melissa Nelson (chair), Anna James, Jeff Veatch

Committee Member Absent: Carrie Chenery

Board Members Present: Ed Baine, Shelley Butler Barlow, Greta Harris, C.T. Hill, Sharon Brickhouse Martin, Horacio Valeiras, Paolo Fermin (undergraduate student representative), Tish Long, Phil Miskovic (graduate and professional student representative), Robert Weiss (faculty representative), Preston White, Serena Young (staff representative).

Guests: Callan Bartel, Lynsay Belshe, Rosemary Blieszner, Charlene Casamento, Cyril Clarke, Al Cooper, David Crofts, Jessica Davis, Jon Deskins, Corey Earles, Jeff Earley, Kari Evans, Abbey Rowe Erwin, Laura Freeman, Ron Fricker, Mike Friedlander, Rachel Gabriele, Rebekah Gann, Cathy Grimes, , Rebekah Gunn, Miles Guth, Lindsey Haugh, Kay Heidbreder, Rachel Holloway, Elizabeth Hooper, Byron Hughes, Chris Kiwus, Sharon Kurek, Lee Learman, Caroline Lohr, Nancy Meacham, Ken Miller, Laurel Miner, Justin Noble, Kelly Oaks, Kim O'Rourke, Mark Owczarski, Eric Paterson, Jeffrey Persons, Dwayne Pinkney, Charlie Phlegar, Ellen Plummer, Katie Polidoro, Menah Pratt-Clarke, Robin Queen, Chris Rahmes, Julie Ross, Tim Sands, Frank Shushok, Charlie Sloop, Aimee Daniel Sui, John Tartor, Don Taylor, Judy Taylor, Aimée Surprenant, Tracy Vosburgh, Nick Whitesell.

OPEN SESSION

1. Welcome. M. Nelson, chair of the committee welcomed board and committee members.

2. Review and Approve Open Session Agenda.

The committee voted unanimously to accept the agenda as presented including all items on the Consent Agenda.

3. Consent Agenda. Approval of August 31, 2021 Meeting Minutes; Report of Reappointments to Endowed Chairs, Professorships, and Fellowships; Resolution for Exclusion of Certain Officers/Directors, Resolution to Amend Policy 1026 and the Student Code of Conduct to align with new Title IX regulations Issued by the US Department of Education, approval of degree actions: resolution to Discontinue the Ph.D. in Educational

Research and Evaluation, a resolution establishing the School of Animal Sciences, and affirmation of a SCHEV-approved department name in the Virginia Tech Carilion School of Medicine.

4. College of Science Update. R. Fricker, interim dean provided the committee an overview of the College of Science. The college includes eight departments, the School of Neuroscience, and two academies and enrolls 4,827 undergraduate students and 612 graduate students. In addition to majors, students from across the university take courses offered by the college in physical and life sciences, math, and behavioral/social sciences. The college's total research expenditures are above \$36.1M and philanthropic participation and gifts are on the rise. Faculty members contribute significantly to the university's prestigious research contributions and five faculty members have been awarded early career awards from the National Science Foundation, Department of Energy, and the National Institutes of Health. College priorities include the Academy of Data Science and the Women in Science Leadership program. Goals for the college include infrastructure and capital projects, and continued growth of graduate students and a diverse faculty.

5. Council of College Deans Update. L. Learman, dean of the Virginia Tech Carilion School of Medicine and representative to the committee from the Council of College Deans, offered remarks. Dean Learman noted that students, faculty and staff are spending time together again, observing appropriate precautions, and enjoying a vibrant, engaging and 3-dimensional college experience. Additionally, reports of sexual violence and misconduct raise concern about redoubling efforts to prevent these traumatic events. Deans applaud the establishment by President Sands of the Sexual Violence Culture and Climate Work Group to advance an inclusive, outcomes-driven and accountable approach for preventing sexual violence on campus. The Council of College Deans has been engaged in advancing the university's faculty recruitment efforts including the Target of Talent and Future Faculty Diversity programs. As a follow-up to the committee's discussion in August about the future of work, Dean Learman shared college-specific efforts designed to optimize work life particularly among administrative support areas such as advising.

6. Provost's Update. C. Clarke, executive vice president and provost, updated the committee on several academic initiatives. First, Provost Clarke reviewed the manner in which the university reviews academic programs. Courses are reviewed annually by students who complete a Student Perceptions of Teaching (SPOT) survey that is a both a quantitative and qualitative assessment. In addition, courses are peer reviewed when instructors go up for tenure and/or promotion. Degrees and certificates are subject to oversight and review by college and university faculty and administrators and by the State Council for Higher Education of Virginia (SCHEV). Reviews include the termination of degrees and will include a teach-out plan. Since 2014, 13 degree programs have been

discontinued or consolidated with others. Periodically, instructional methodologies and locations are also reviewed. For example, the Math Emporium is a large teaching space in Blacksburg that accommodates computer-based, self-paced, instruction for introductory mathematics courses. The emporium was established approximately 20 years ago using Pew funds to explore innovative ways to teach mathematics. Currently, students indicate that while they achieved a deeper understanding of the subject matter, there is a level of dissatisfaction that merits a comprehensive review. The Department of Mathematics is conducting a review that includes student experiences and other analyses. The review will help make a decision about whether the Math Emporium should be continued and, if so, at what scale.

Provost Clarke reported on new leadership and upcoming leadership changes. New to the university is Aimée Surprenant, dean of the Graduate School. She comes to Virginia Tech from Memorial University in Canada. Searches for college deans are underway or nearing completion these include College of Science, Pamplin College of Business, and a 2022 search is anticipated for a dean for the College of Architecture and Urban Studies. The search for a vice provost for faculty affairs is nearing completion.

Active projects and initiatives include enrollment growth planning that includes internal and external capacities and consultation with the town of Blacksburg and other surrounding, supportive communities. The university's experiential learning efforts are being shaped by a steering committee and will be taken up as a University Mission Initiative in accordance with shared governance system. Distance and online learning is being reviewed by a work group that will formulate an initial plan. The academic initiatives that comprise the university's Destination Areas have reached a new phase and will employ a project-based approach to solve substantive problems. Graduate education will benefit from continued review and leadership from Dean Surprenant. The provost and colleges continue to refine the academic budgeting model.

7. Discussion: National Security Institute. Daniel Sui, vice president for research and innovation, Eric Paterson, executive director of the National Security Institute, Laura Freeman, director of the Hume Center, and JB Persons, Ph.D. student in electrical and computer engineering offered an overview and answered questions regarding the newly established National Security Institute. The institute aims to further advance the success of the Hume Center in advancing scholarship and engaging undergraduate and graduate students in research initiatives that result in innovative, experiential education experiences. Industry and government partners are engaged with the institute and center in providing funding to grow experienced researchers who understand the interdisciplinary application, ethical, and policy dimensions of natural security. The institute has partnerships with research institutions within and external to the Commonwealth and has graduate students conducting research in multiple military and

civilian locations. The National Security Institute will strategically develop in a phased manner over the course of several years.

8. Agenda Items for March ARSA committee meeting. Committee members will submit agenda topics for consideration at future meetings.

9. Adjournment.

Open Session Agenda

ACADEMIC, RESEARCH AND STUDENT AFFAIRS COMMITTEE

Inn at Virginia Tech and Skelton Conference Center

3:00 – 5:30 p.m.

November 7, 2021

<u>Agenda Item</u>	<u>Reporting Responsibility</u>
1. Welcome	M. Nelson
2. Review and Approve Open Session Agenda	M. Nelson
3. Consent Agenda	M. Nelson
A. Approval of August 31, 2021 Meeting Minutes	
B. Report of Reappointments to Endowed Chairs, Professorships, and Fellowships	
*C. Approval of Pratt Fund Program and Expenditures Report <i>(shared with Finance and Resource Management)</i>	
*D. Resolution for Exclusion of Certain Officers/Directors	
*E. Resolution to Amend Policy 1026 and Student Code of Conduct to Align with New Title IX Regulations Issued by the U.S. Department of Education	
*F. Approve Degree and Academic Program Actions	
• Resolution to Discontinue the Doctor of Philosophy in Educational Research and Evaluation (EDRE)	
• Resolution for the Establishment of a School of Animal Sciences	
• Affirmation of SCHEV-Approved Department Name in VTCSOM	
4. Update: College of Science	R. Fricker
5. Council of College Deans Update	L. Learman
6. Provost's Update and Discussion	C. Clarke
7. Panel Discussion: National Security Institute	D. Sui, E. Paterson, L. Freeman, JB Persons
8. Agenda Items for March 2022 Committee Meeting	M. Nelson
9. Adjourn Committee Meeting	M. Nelson

* Requires Full Board Approval

Open Session Consent Agenda
ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE
November 7, 2021

- A. Approval of August 31, 2021 Meeting Minutes
- B. Report of Reappointments to Endowed Chairs, Professorships, and Fellowships
- *C. Approval of Pratt Fund Program and Expenditures Report
(shared with Finance and Resource Management)
- *D. Resolution for Exclusion of Certain Officers/Directors
- *E. Resolution to Amend Policy 1026 and Student Code of Conduct to Align with New Title IX Regulations Issued by the U.S. Department of Education
- *F. Approve Degree and Academic Program Actions
 - Resolution to Discontinue the Doctor of Philosophy in Educational Research and Evaluation (EDRE)
 - Resolution for the Establishment of a School of Animal Sciences
 - Affirmation of SCHEV-Approved Department Name in VTCSOM

REPORT

Reappointments to Endowed Chairs, Professorships, or Fellowships (4)

November 7, 2021

The president and executive vice president and provost have confirmed the reappointment of the following faculty to an endowed chair, professorship, or fellowship with a salary and/or operating supplement provided by the endowment and, if available, with funds from the eminent scholars match program.

College of Engineering (4)

Rakesh Kapania

Norris and Laura Mitchell Professorship
of Aerospace Engineering

Brian Kleiner

Ralph H. Bogle, Jr. Professorship

Mark Psiaki

Kevin Crofton Faculty Chair
in Aerospace and Ocean Engineering

Konstantinos Triantis

John L. Lawrence Professorship

STUDY SCIENCE. DO SCIENCE.

RON FRICKER, INTERIM DEAN

NOVEMBER 7, 2021

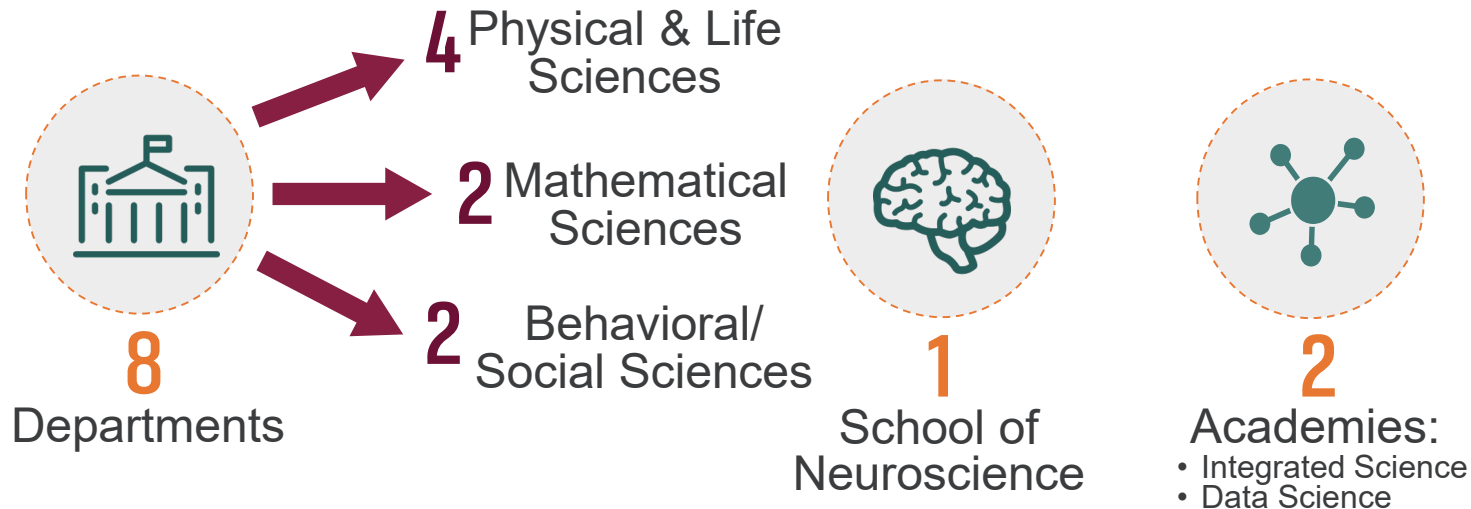
The College of Science's "deep commitment to world class scholarship, fundamental research, pedagogical excellence, innovation, and outreach positions us as *the college* with the ability to significantly 'move the needle' on Virginia Tech's rankings" as a global land-grant university.

– COS 2020 Annual Report

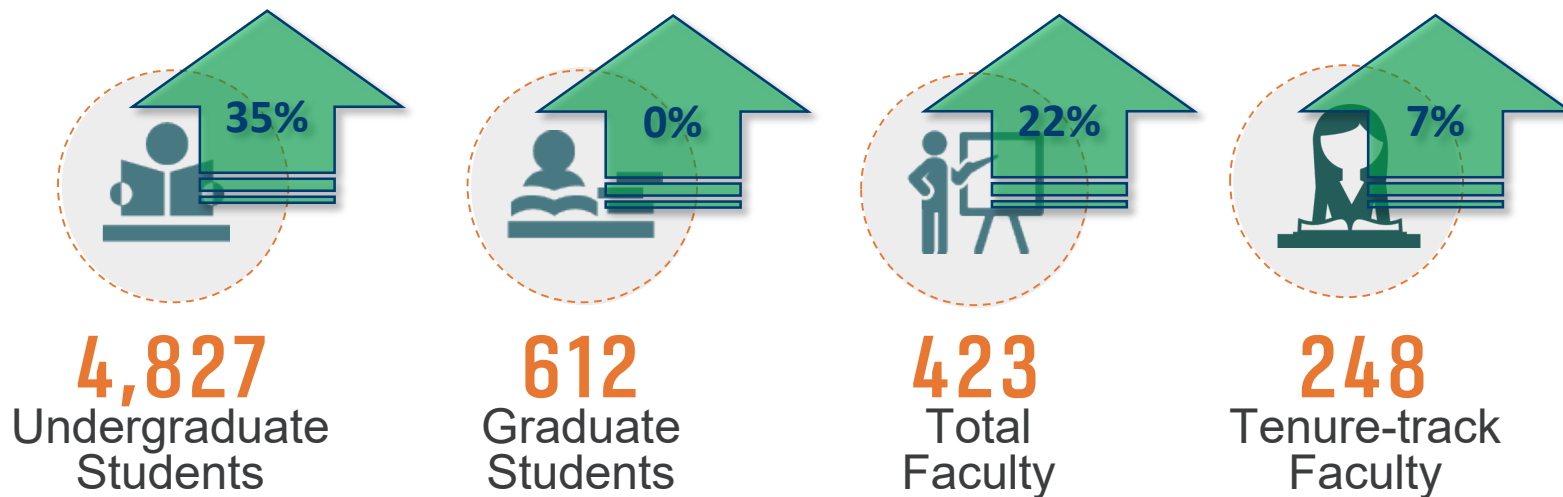
ACCELERATING SCIENCE

Who We Are and How We're Organized

STRUCTURE



PEOPLE



- change since academic year 2017



98.4%

Percentage of VT undergrads who take at least one COS course.

1 in 4

The ratio of undergrad student credit hours taught in COS to the entire university.

260,894

Number of undergrad student credit hours COS taught in AY21.

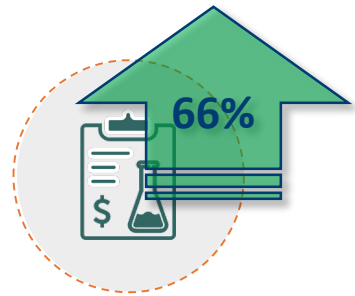
94%

Percentage of COS undergrad courses taught in-person this semester.

ACCELERATING SCIENCE

We Are "Moving the Needle" on Research and Philanthropy

RESEARCH



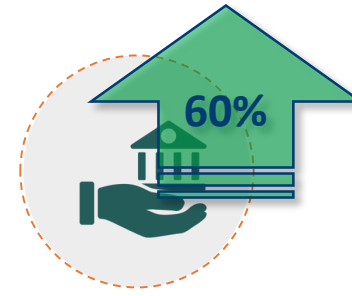
\$47.5M
Total
Research
Awards



286
Number of
Research
Awards

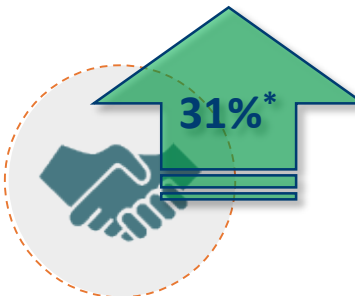


\$36.1M
Total
Research
Expenditures

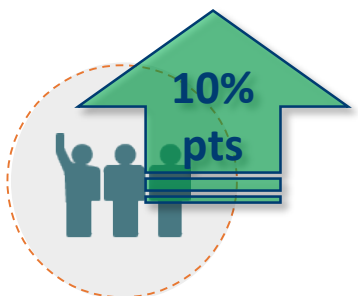


\$32.6M
Federal
Research
Expenditures

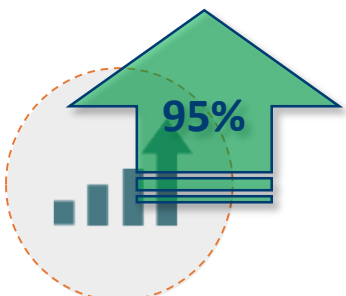
ADVANCEMENT



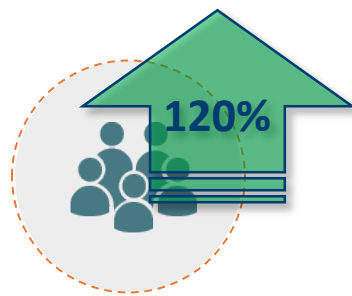
\$9.4M
Total
Commitments



18.4%
Alumni
Participation



\$948K
Annual
Funds



4,851
Donor
Count



- change since academic year 2017

* - change compared to average total commitments from 2017 to 2020

103,967

Number of Google Scholar citations by COS faculty in 2020.

11.5

Average number of papers per tenure track faculty member per year from 2015-18.

5

Early career faculty awards in 2020 (3 NSF CAREER, 1 DOE, 1 NIH).

10X

ROI of Dean's Discovery Funds invested in College of Science faculty.

SELECT STRATEGIC PRIORITIES Attachment B

> Academy of Data Science



> Women in Science Leadership program



Supporting University Goals

ADVANCE REGIONAL, NATIONAL, AND GLOBAL IMPACT

College of Science: Be a global leader in scientific research, discovery, scholarship, and education.

BE A DESTINATION FOR TALENT

College of Science: Continue to build a robust, diverse, inclusive, scientific community.

ELEVATE THE UT PROSIM (THAT I MAY SERVE) DIFFERENCE

College of Science: Excel in outreach, engagement, and economic development.

INSURE INSTITUTIONAL EXCELLENCE

College of Science: Invest in people & infrastructure to support teaching, research, and service.

BUILDING FOR THE FUTURE

Attachment B

We Are Focused on Advancing Science in Support of Virginia Tech

> Infrastructure Projects

- Data and Decisions Bldg
- Undergraduate Science Lab Building

> Capital Projects

- Hahn
- Robeson
- Derring

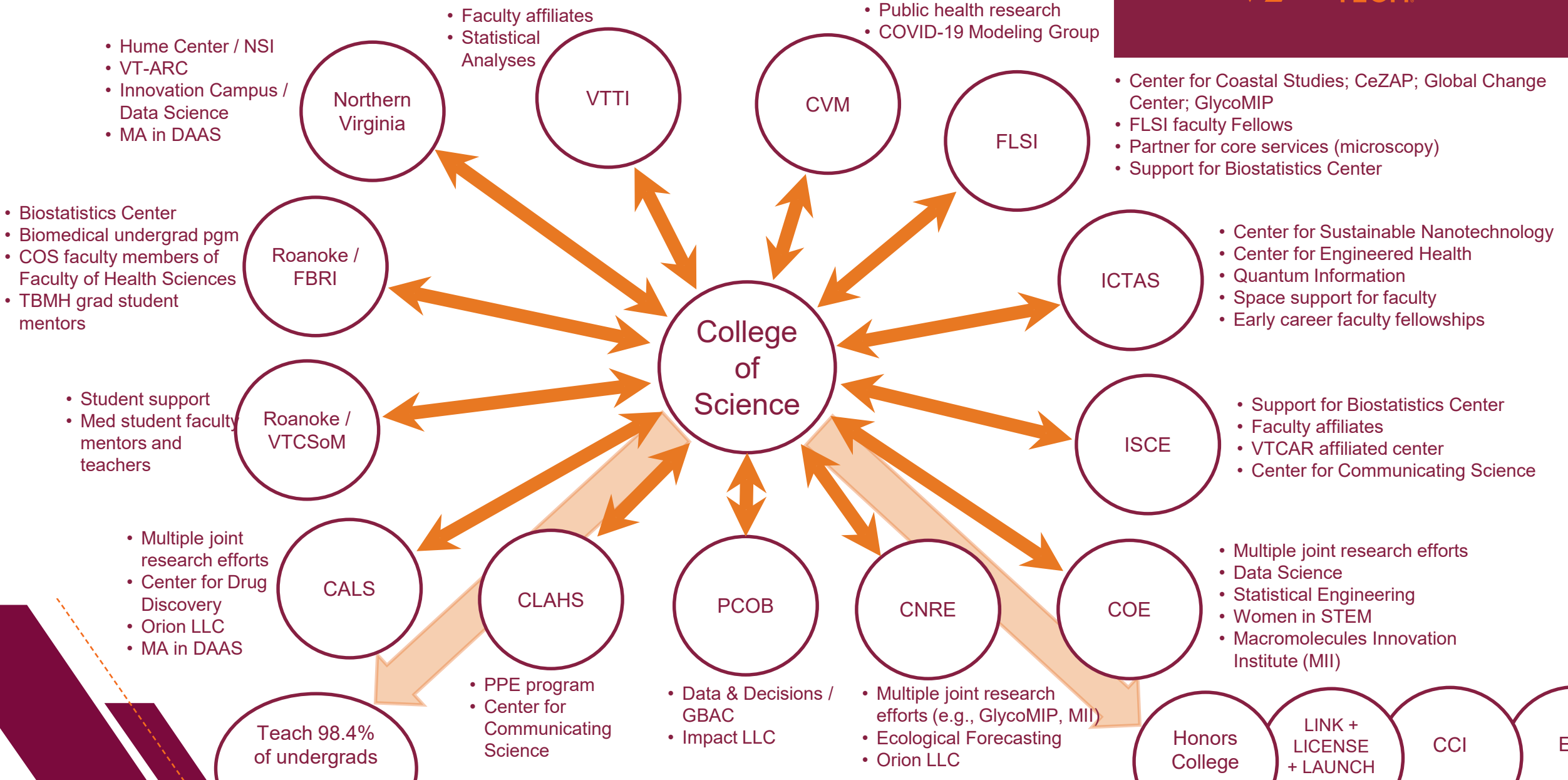
> Opportunities & Challenges

- Further diversifying faculty & grad student populations
- Increasing our graduate student population
- Space for future growth



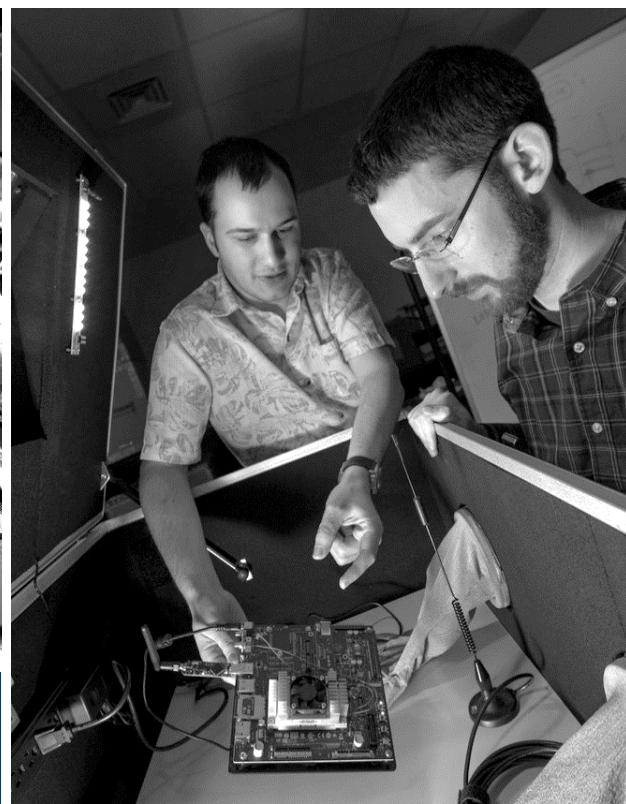
IMPACT

College of Science Collaborates Across the Entire University





VIRGINIA TECH NATIONAL SECURITY INSTITUTE



Eric Paterson | Executive Director

November 07, 2021



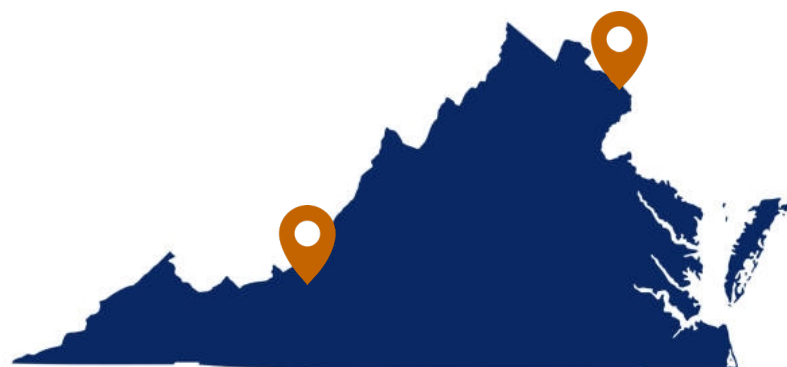
NATIONAL SECURITY INSTITUTE
VIRGINIA TECH.

MOTIVATION

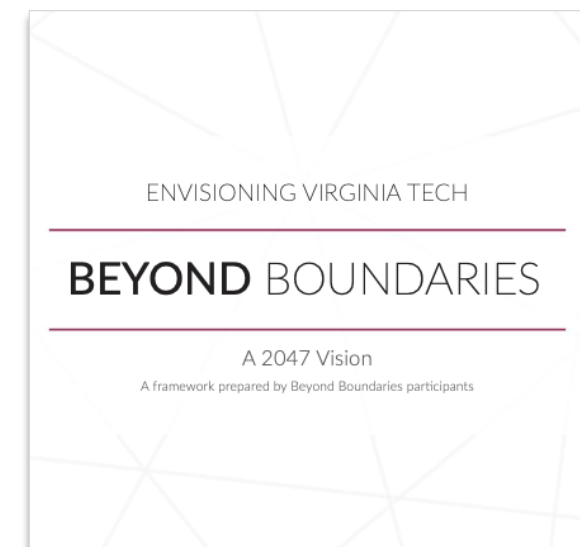
FOUNDATION



LOCATION



STRATEGY



VIRGINIA TECH NATIONAL SECURITY INSTITUTE

MISSION

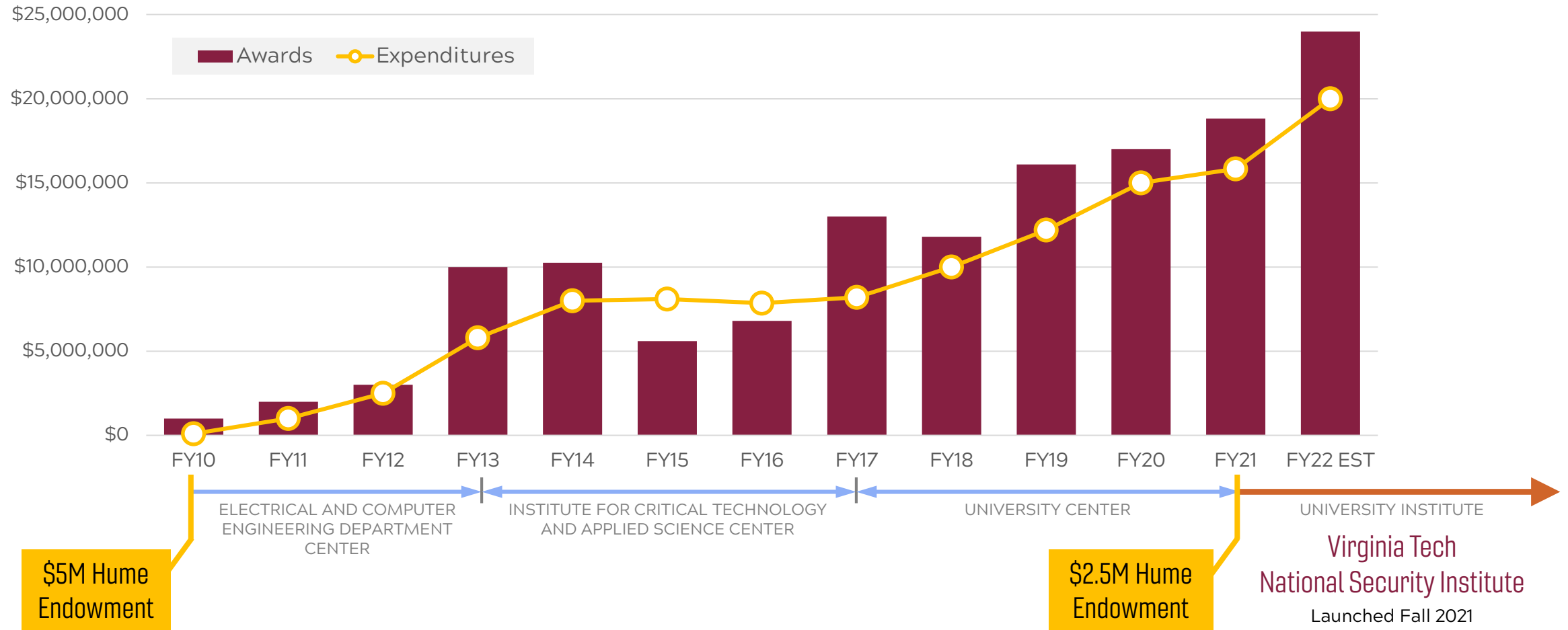
The National Security Institute will perform interdisciplinary research and development, provide experiential learning and education, solve challenges in national security by strengthening technology, standards, public policy, and the national security workforce.

VISION

The National Security Institute aspires to become the nation's preeminent academic organization for integrated research and development, and experiential learning to advance national security.



RESEARCH AWARDS AND EXPENDITURES



STRUCTURE AND ASSETS

TECHNICAL DIVISIONS



Spectrum
Dominance



Aerospace and
Ocean Systems



Intelligent
Systems

MAJOR PROGRAMS



Ted and Karyn Hume
Center for National
Security and Technology



Secure Futures Lab



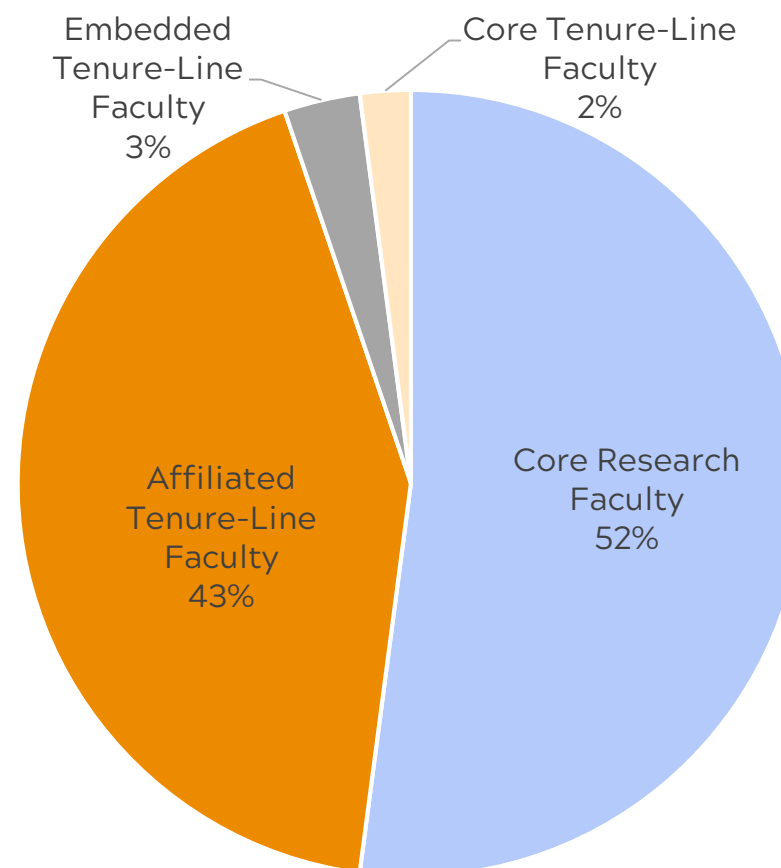
Beyond Technology

FACILITIES



EXPAND TENURE-TRACK FACULTY ACROSS COLLEGES

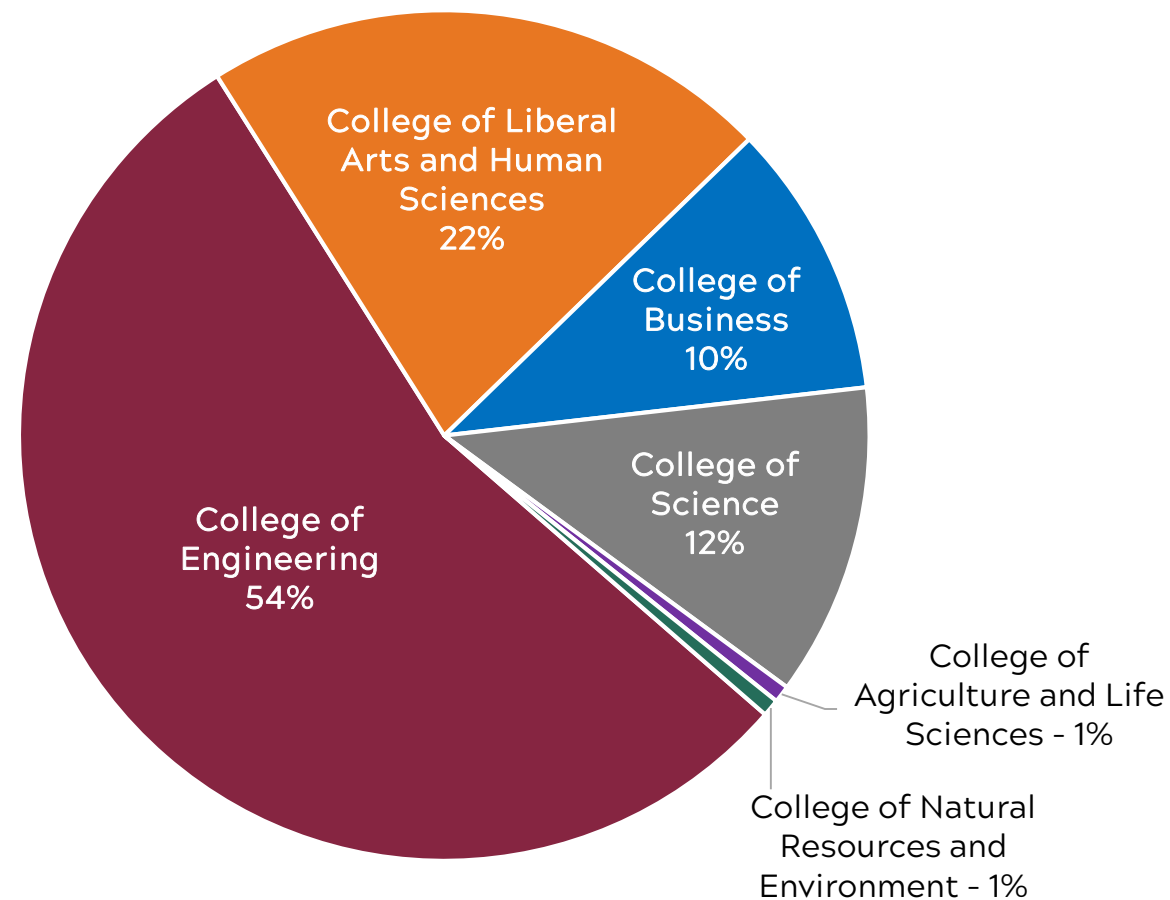
- College of Agriculture and Life Sciences
- College of Architecture and Urban Studies
- Pamplin College of Business
- College of Engineering
- College of Liberal Arts and Human Sciences
- College of Natural Resources and Environment
- College of Science
- Virginia-Maryland College of Veterinary Medicine



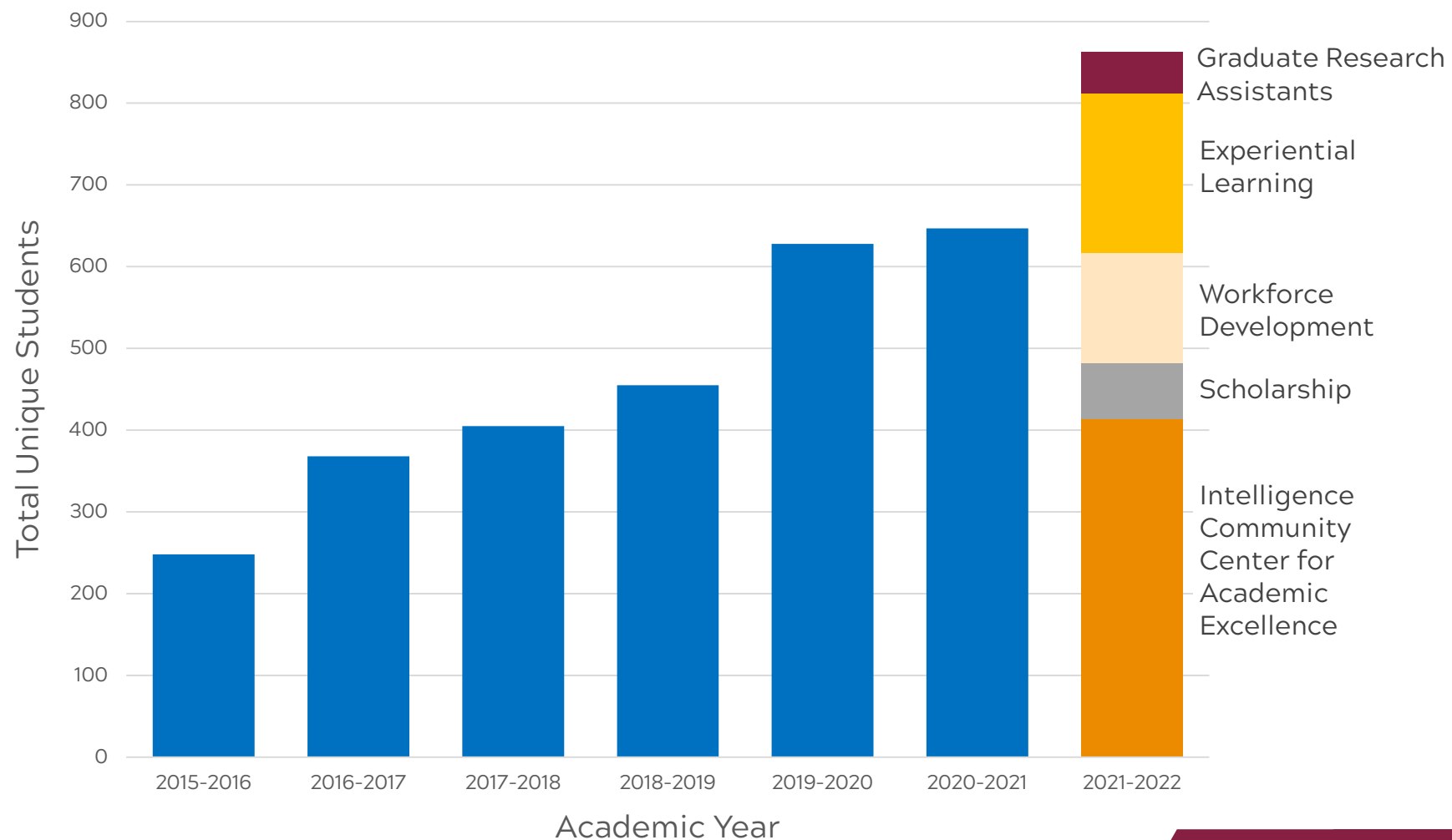
STUDENT ENGAGEMENT

49 EXPERIENTIAL LEARNING PROJECTS

- Materials & Advanced Manufacturing in Applied Electromagnetics
- Quantum Cryptography Algorithm Development
- Hypersonic Simulation
- Augmented Reality-Enhanced Situational Awareness
- Space Domain Awareness Telescope
- Autonomous Drone Racing
- Russian Disinformation
- Diplomacy Lab
- Natural Language Processing Research
- Development of a space camera for UV spectroscopy
- Security in Coastal Zones



STUDENT ENGAGEMENT



PANEL DISCUSSION



ERIC PATERSON

- Executive Director, National Security Institute
- Rolls-Royce Commonwealth Professor of Marine Propulsion



LAURA FREEMAN

- Director, Intelligent Systems Lab, National Security Institute
- Director, Information Science and Analytics, VT-ARC
- Assistant Dean for Research, College of Science



JEFFREY 'JB' PERSONS

- Ph.D. candidate, Computer Engineering

