

Minutes

ACADEMIC, RESEARCH, AND STUDENT AFFAIRS COMMITTEE

Inn at Virginia Tech and Skelton Conference Center

Solitude Room

Monday, April 1, 2019

9:00 – 11:30 a.m.

Board Committee Members Present:

Debbie Petrine (chair), Zo Amani (graduate student representative), Ed Baine, John Ferris (faculty representative), Anna James, Chris Peterson.

Additional Board Members Present:

Zo Amani, (graduate student representative), Greta Harris, Rachel Iwicki (undergraduate student representative), Mehul Sanghani, Dennis Treacy (rector), Jeff Veatch,

Guests:

Janice Austin, Callan Bartel, Rosemary Blieszner, Richard Blythe, Kris Bush, Cyril Clarke, Brian Daniels, Karen DePauw, Juan Espinoza, Kim Filer, Jack Finney, Lance Franklin, Rachel Gabriele, Cathy Grimes, Justin Grimes, David Guerin, Kristina Hartman, Dee Harris, Kay Heidbreder, Lauren Henson, Tim Hodge, Rachel Holloway, William Hopkins, Chris Kiwas, Peggy Layne, Shernita Lee, Theresa Mayer, Erin McCann, Hud McClanahan, Nancy Meacham, Scott Midkiff, Mallory Miller, Sally Morton, Thomas Ollendick, Kim O'Rourke, Mark Owczarski, Patty Perillo, Ellen Plummer, Karen Eley Sanders, Tim Sands, Robert Sebek, Michele Soledad, Don Taylor, Judy Taylor, Tracy Vosburgh, Erin Williams, Paul Winistorfer.

OPEN SESSION

- 1. Motion to Return to Open Session.** The committee moved to return to Open Session.
- 2. Welcome and Acceptance of Agenda.** Debbie Petrine, chair of the committee, welcomed committee members and attendees to the Open Session. Earlier in the morning, the committee enjoyed a discussion over breakfast with graduate students located in Blacksburg, Roanoke, and the National Capital Region.

A motion was made to change the order of agenda items. The agenda was approved so that immediately after the consent agenda the college update and report from the Council of College Deans would be presented, followed by the provost's update.

The committee voted to accept the reordered agenda.

- 3. Report of Closed Session Action Items.** In closed session, the committee voted to approve 18 appointments to emeritus or emerita faculty status, four appointments to endowed professorships, 82 faculty research leaves, one modification to the requirement for return to service for a faculty member, one appointment to Alumni Distinguished Professor, three appointments to University Distinguished Professor, and ratified the Faculty Personnel Changes Report for the quarter ending December 31, 2018 (this report is shared with the Finance and Resource Management committee).
- 4. Consent Agenda.** The committee unanimously approved the items on the Open Session Consent Agenda: the minutes of the committee's November 5, 2018 meeting, a reappointment to an endowed professorship, an appointment to the Virginia Coal and Energy Research and Development Advisory Board, a Resolution to Establish a Doctor of Philosophy Degree in Neuroscience, a Resolution to Approve the Honor Code for the Virginia Tech Carilion School of Medicine, a Resolution for Exclusion of Certain Officers/Directors, a Resolution to Amend Virginia Tech's Voluntary Transitional Retirement Program for Tenured Faculty (University Policy No. 4410), a Resolution to Change the Name of the Commission on Graduate Studies and Policies, and a Resolution to Adopt the Doctor of Veterinary Medicine Student Code of Professionalism.

The committee unanimously approved the items on the Consent Agenda.

- 5. Update: College of Architecture and Urban Studies.** Dean Richard Blythe presented an update on the college. The College of Architecture and Urban Studies (CAUS) delivers academic programs in architecture, art, construction, design, and public and international affairs. The college houses four top-ranked schools: the School of Architecture + Design, the Myers-Lawson School of Construction, the School of Public and International Affairs, and the School of Visual Arts. The college enrolls 2400 undergraduate students and 500 master's and PhD students. CAUS has domestic and international locations including Richmond, VA, the National Capital Region, and Riva san Vitale in Switzerland. The college is engaged in partnerships in Roanoke, VA in the Health Design Research Lab and in Falls Church, VA with smart construction. The FutureHaus, built by students and faculty, won first prize in the 2018 Solar Decathlon Competition in Dubai, United Arab Emirates. Plans for the future include improving the infrastructure of research and demonstration spaces, exploring the possibility of a living and learning community on the Blacksburg campus to support design + build projects for scholar artists, and VT HITT smart construction initiatives in Falls Church, VA.
- 6. Report from the Council of College Deans.** Sally Morton, dean of the College of Science and representative to the committee from the Council of College Deans. The university's desire to increase masters and doctoral degrees is of interest to all the

deans as these degrees are an important element of Virginia Tech's land-grant mission. Dean Morton's remarks focused on the distinct elements of the scholarship, professional, and personal lives of PhD students. The key element in a PhD education is the dissertation, which is based on original, independent, and extensive research. Coursework comprises two years of a PhD student's approximate five years of time in pursuit of the PhD. Dissertations are frequently published as books or papers and form the cornerstone of the PhD scholar's research beyond Virginia Tech. The Graduate School plays a key role in advancing graduate students. Departments within the colleges are responsible for the intellectual and physical home for the disciplinary education and research of graduate students. In addition to preparing graduate students for careers in industry and government, many graduate students pursue careers in academe. Graduate students are the future of the academy and faculty members focus on mentoring their future colleagues.

Graduate students are essential to the university as teaching and research assistants. Excellent graduate students advance faculty research productivity, aid in faculty recruitment and retention, and Virginia Tech's competitiveness for external funding. Teaching and research assistants receive a stipend for living expenses and their tuition is paid to the university in the form of tuition remission. Challenges include the fact that Virginia Tech's stipends are lower than our aspirational peers and the university's tuition remission process results in a higher cost for a graduate student on an external grant as compared to some of our peers. The higher cost of research assistantships has resulted in a drop in research assistant positions. While external funding is rising, faculty include postdoctoral positions on their grants rather than research assistants due to the cost of research assistantships. These cost issues are of concern to the Council of College Deans and we look to partnering with the university to consider options.

- 7. Provost's Update.** Cyril Clarke, executive vice president and provost, brought several items to the attention of the committee.

The university's student Mental Health Task Force report was submitted on March 1, 2019. The task force was chaired by the director of the Cook Counseling Center and included students, student affairs personnel, faculty, and experts in psychiatry and neurosciences. The report confirms that the university has an appropriate and effective system for addressing mental health issues among students and that there is room for improvement. There are numerous recommendations for improving mental health services. Next steps include sharing the report with the university's leadership and community and a detailed discussion with the Board of Visitors in June. The committee has requested that the topic of the mental health report be included on the agenda for the Information Session at the June meeting.

Three college dean searches are in various stages of completion. The dean of the Virginia Tech Carilion School of Medicine, Dr. Lee Learman, will begin his appointment on July 1, 2019. Four candidates for the position of dean of the College of Liberal Arts and Human Sciences have had on-campus interviews. The search for the dean of the Virginia Maryland College of Veterinary Medicine is underway with expected completion by the end of 2019.

The university's accrediting body the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) on-site accreditation visit is scheduled for March 2021. The accrediting body for the Virginia Tech Carilion School of Medicine, the Liaison Committee on Medical Education (LCME), voted to approve the school's substantive change for eight years.

Undergraduate admissions are on target for the fall of 2019. As of March 26 the university received 31,795 applications for admission. Offers were made to 22,002 prospective students (69% of applicants) with emphasis on increasingly competitive candidates, out-of-state, and international candidates. Enrollment management and admissions models continue to improve. The university's goal is 6,600 freshman with a total enrollment target of 30,000 undergraduate students by 2023 including expansion of computer science and computer engineering by 2000 over the course of approximately eight years. The university continues its commitment to legacy students and to advancing inclusion and diversity. Communications around admissions will continue to improve with the assistance of board members and other key stakeholders who can communicate the goals of the university.

Addressing educational debt requires multiple levers including financial aid, cost of attendance, student success, paid internships, and financial literacy. Students will benefit with improved financial literacy to include hiring an assistant director for financial wellness who will serve on the Hokie Wellness team in the Division of Student Affairs. A university-wide advisory council will support the work of this new assistant director. The plan includes purchasing an educational program with videos, content, quizzes, and more.

The university continues progress in key areas such as transdisciplinary learning and discovery, experiential and adaptive learning, inclusion and diversity, in the National Capital Region, and with the continued growth of an academic health center in Roanoke, Va. In the arts, the university is participating with the Smithsonian Institution in the ACCLerate Creativity and Innovation Festival on April 5-7, 2019. Eric Lyon, a faculty member in the School of Performing Arts in the College of Liberal Arts and Human Sciences has been honored with a prestigious Guggenheim Fellowship.

The presentation on graduate education continues the committee's approach to use a theme through which to examine several issues. Of importance for the university is the commitment in graduate education to transdisciplinary programs, a mutually

supportive and dependent relationship between research and graduate education, Inclusion and diversity, and professionalization of the graduate student.

- 8. Graduate Education: Presentation and Panel.** Karen DePauw, vice president and dean for graduate education, provided an update on graduate education at Virginia Tech. The university offers 170 master's and doctoral degrees, 50 graduate certificates, and two professional degrees, an medical doctor degree and a doctor of veterinary medicine. Virginia Tech has 6,370 graduate and professional students, 2,956 are PhD students and 3,414 are master's students. In 2016-2017 the university awarded 516 doctoral degrees and 1,514 master's degrees. Virginia Tech implemented the National Academies of Science, Engineering, and Medicine 2018 recommendations for graduate science, technology, engineering, and mathematics (STEM) education for the 21st Century. The Transformative Graduate Education program includes educational programs aimed at knowledge, leadership, scholarly inquiry, and social responsibility. Interdisciplinary scholarship is a hallmark of graduate education. Challenges faced within graduate education include that graduate admissions have declined since 2013, the increase in undergraduate education is a challenge for graduate education, research assistantships are declining due to an increase of funding for postdoctoral fellowships; stipends for graduate students are not competitive, and affordable housing, health care, and child care services are limited. Future goals include the Innovation Campus, expanding transformative graduate education, increasing graduate enrollment, and increasing the faculty to student ratio in graduate education. Panel members included: William Hopkins, professor in the Department of Fish and Wildlife Conservation, Shernita Lee, in Graduate School recruitment, Thomas Ollendick, professor in psychology and University Distinguished Professor, and Michelle Soledad, a PhD student in Engineering Education.
- 9. Agenda Items for March 2019 Committee Meeting.** The committee will submit topics for consideration by the committee for the June and subsequent meetings.

10. Adjourn

REPORT

Reappointments to Endowed Chairs, Professorships, or Fellowships (1)

April 1, 2019

College of Engineering

Dwight D. Viehland

Jack E. Cowling Endowed Professorship

ENDOWED PROFESSORSHIP
Jack E. Cowling Endowed Professorship

Dean Julia Ross has nominated Professor Dwight D. Viehland to be reappointed to the Jack E. Cowling Professorship in the Department of Materials Science and Engineering (MSE), concurring with the recommendations of the Honorifics Committee of MSE and the Honorifics Committee of the College of Engineering. The Jack E. Cowling Professorship was established as part of the bequest of the late Jack E. Cowling, who graduated from Virginia Tech in Chemical Engineering in 1939.

After completing his doctorate in Solid State Science at Pennsylvania State University in 1991, Professor Viehland joined the Materials Science and Engineering Department at the University of Illinois at Urbana-Champaign where he served as a research group leader in structure-property investigations of piezoelectric ceramics.

Professor Viehland joined the faculty at Virginia Tech in 2001. He is an experimental solid state scientist investigating phase transitions in ceramics and physical phenomena like ferroelectricity, piezoelectricity, magnetostriction, and magnetoelectricity. Since moving to Virginia Tech, Professor Viehland has been a pioneer in the development of magneto-electric composites. These new composites have many potential applications for energy conversion, energy harvesting, data storage, and sensors.

Dr. Viehland's scholarly output is prodigious. During the course of graduating 19 Ph.D. students, he has published 515 papers in high impact, peer-reviewed journals and accumulated over 34,000 citations, with an impressive h-index of 79. These accomplishments are impressive in any field of science and engineering. Dr. Viehland's consistent performance over his academic career is reflected in his list of awards, which include an ONR Young Investigator award, multiple "best paper" awards, Virginia Tech's Alumni Research Award (2007), and being elected to Fellow of the American Ceramic Society.

Professor Viehland has served as head of the electronics division of the American Ceramic Society, Trustee to the American Ceramics Society, as an editor for the Journal of the American Ceramics Society, and on the steering committee of the Institute of Electrical and Electronics Engineers Ferroelectrics Society. He presently serves on the Faculty Senate, the Department of Materials Science and Engineering promotion and tenure committee, and the internal advising committee.

REAPPOINTMENT:

The president and executive vice president and provost have confirmed the reappointment of Dr. Dwight Viehland to the Jack E. Cowling Professor of Materials Science and Engineering for a renewable five-year term, effective April 10, 2019, with salary supplement and annual operating budget as provided by the endowment and if available, with funds from the eminent scholars match program.

April 1, 2019



College of Architecture and Urban Studies

Dean Richard Blythe

Virginia Tech Board of Visitors
Academic, Research, and Student Affairs Committee
April 1, 2019



Entity	Faculty	Staff	Total	Enrollment
CAUS	1	14	15	33
MLSoC	20	3	23	640
A+D	85	16	101	1126
SPIA	56	11	67	412
SOVA	36	3	39	235
Total	198	47	245	2446
Graduate students				329
PhD Students				181



Current Locations

- Blacksburg
- Old Town Alexandria
- Arlington
- Richmond
- Riva san Vitale

Future Locations

- Falls Church – Smart Construction Partnerships
- Roanoke – Health Design Research Lab
- CID Blacksburg
- **Old Town Alexandria**





Challenges

- Infrastructure
- Funding
- Curriculum



Challenges

- Infrastructure

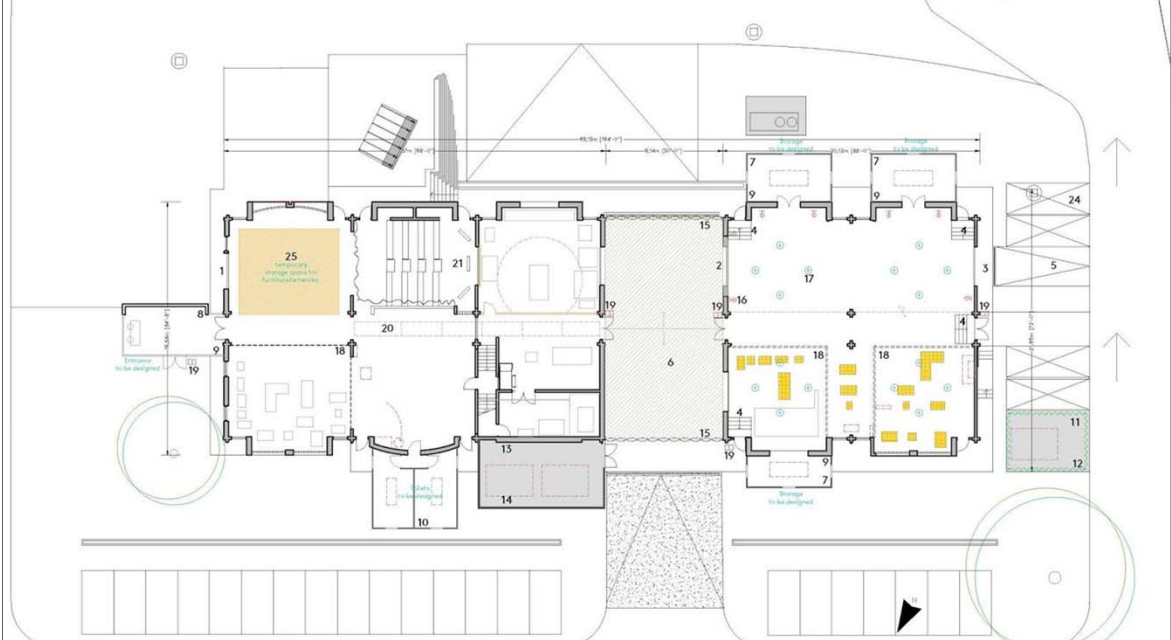


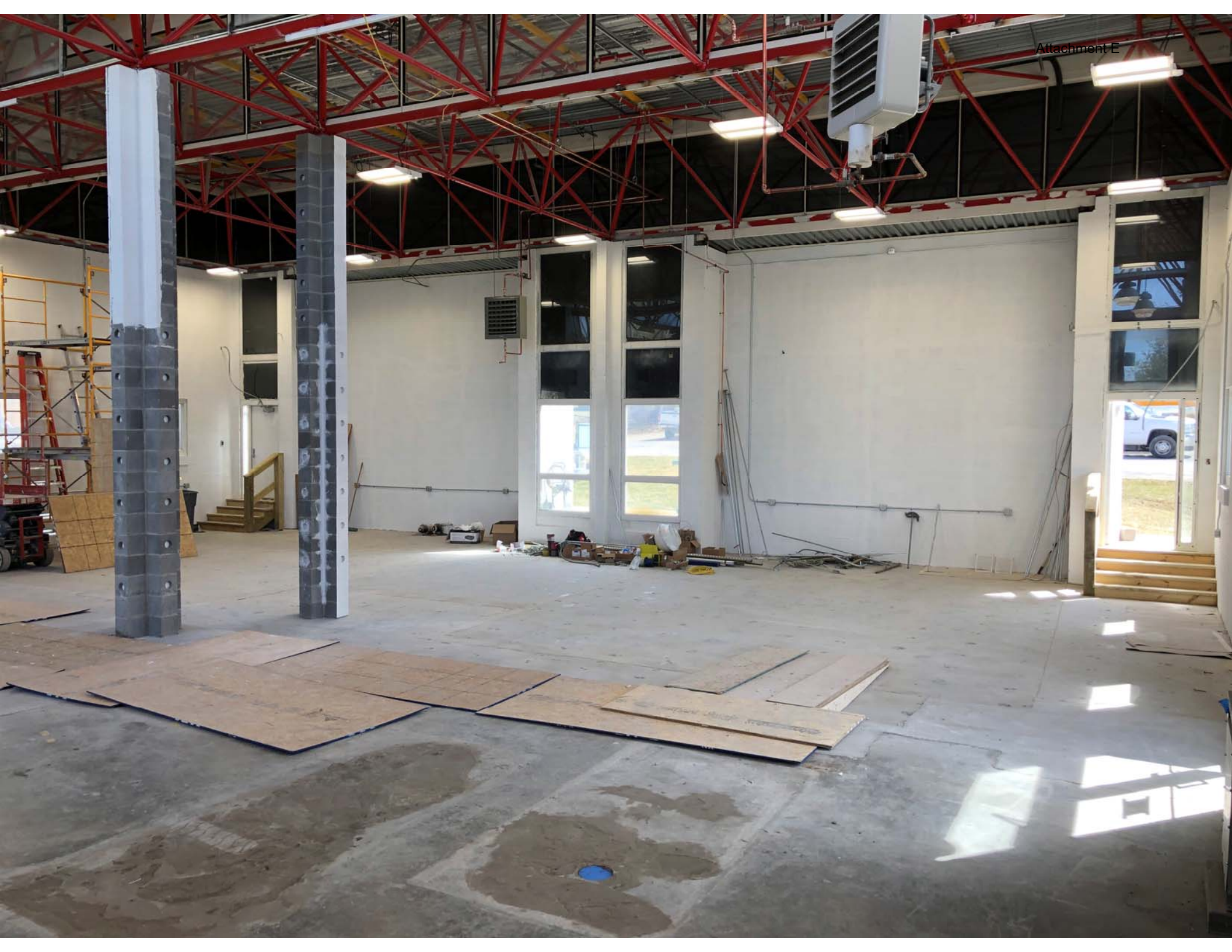


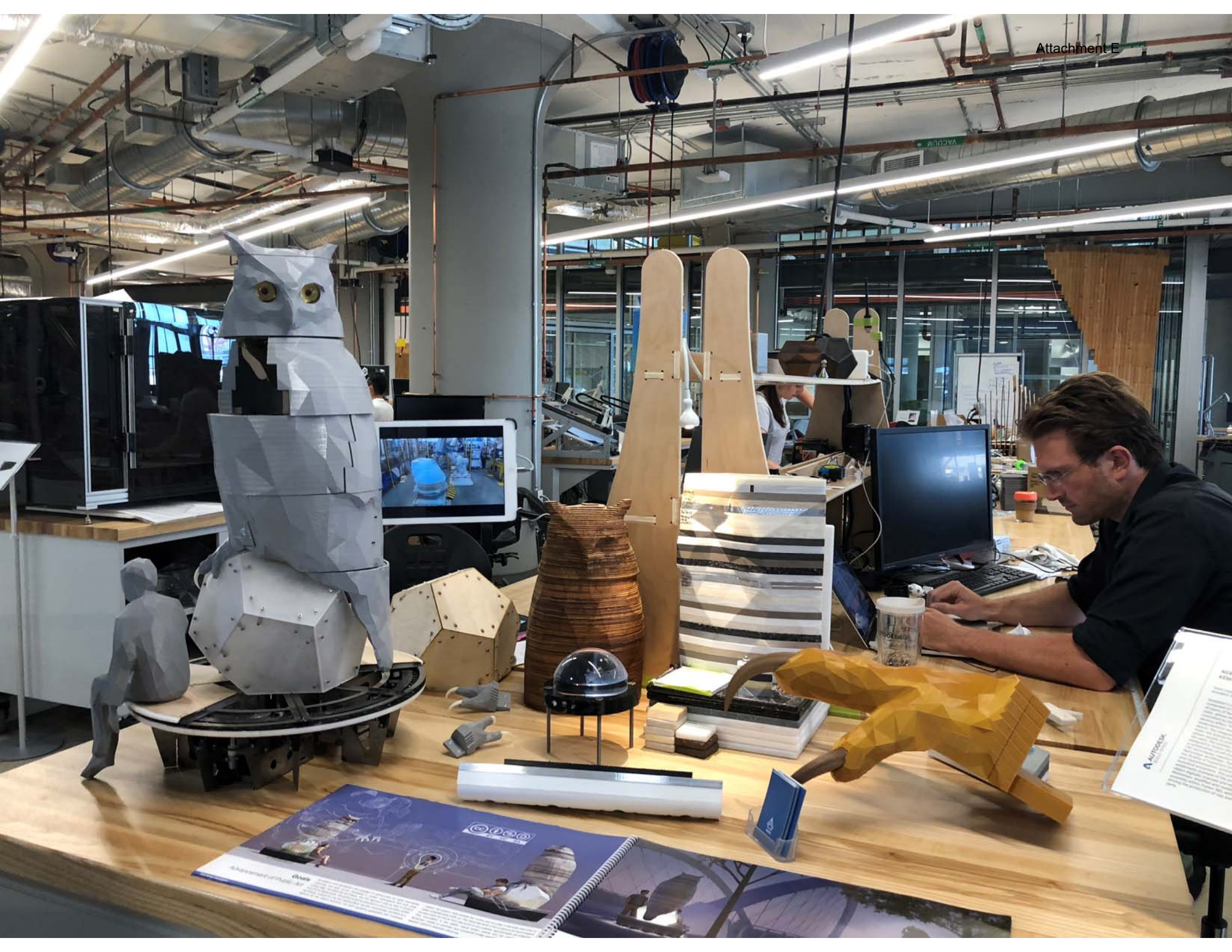


Research & Demonstration Facility = Factory of Factories

Phase I: Winter + Summer Phase = Demolition + Retrofitting = \$1.5 MM (\$970K currently funded)





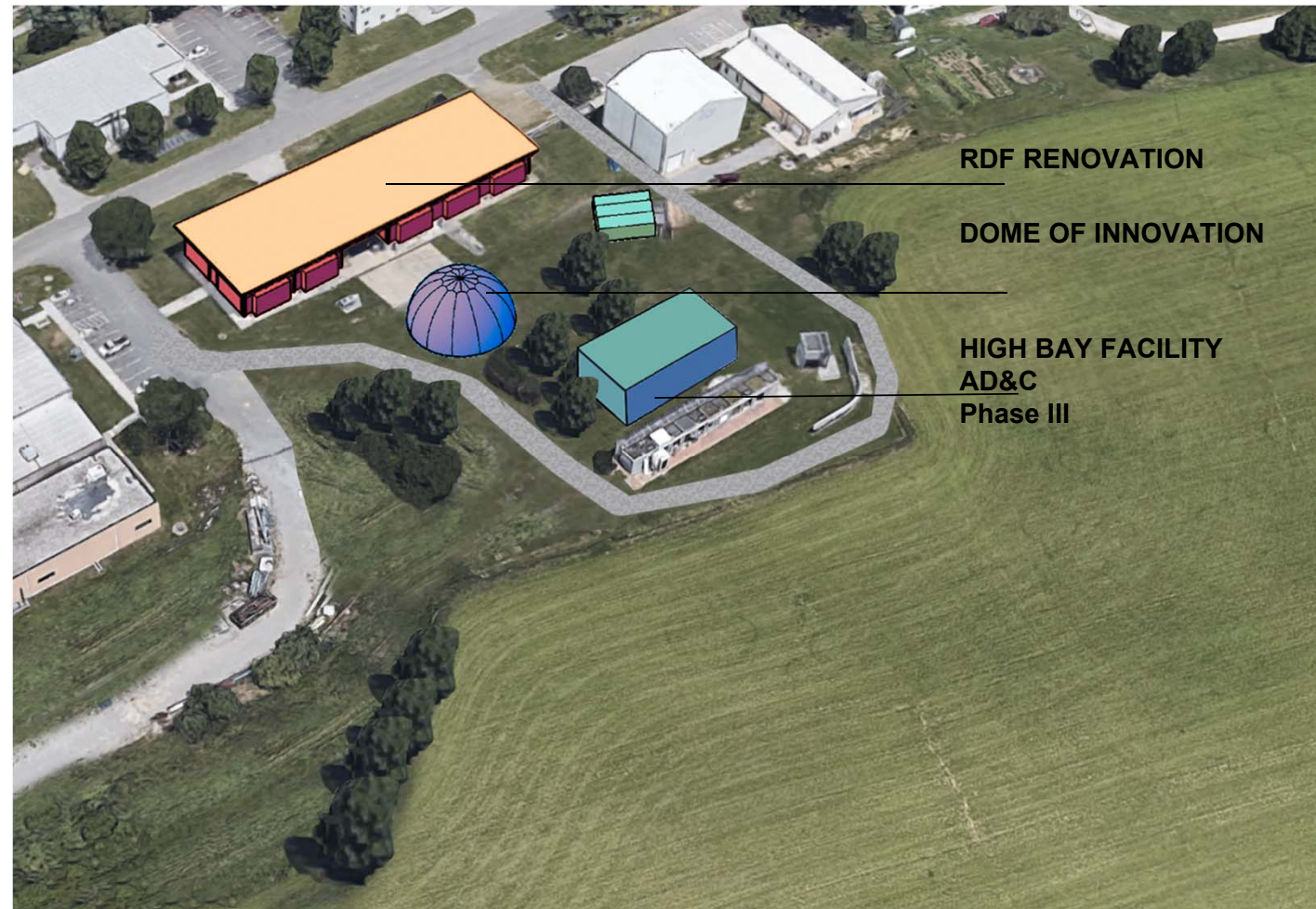


Research & Demonstration Facility = Factory of Factories

The Factory of Factories is a three-phase renovation and expansion plan for the current Research and Demonstration Facility on Innovation Drive.

We envision a Makers' Space dedicated to broadening instructional and research activities, supporting CAUS students and faculty, as well as makers from across the university and community.

This site provides hands-on, interdisciplinary learning and cultivates VT-shaped students.



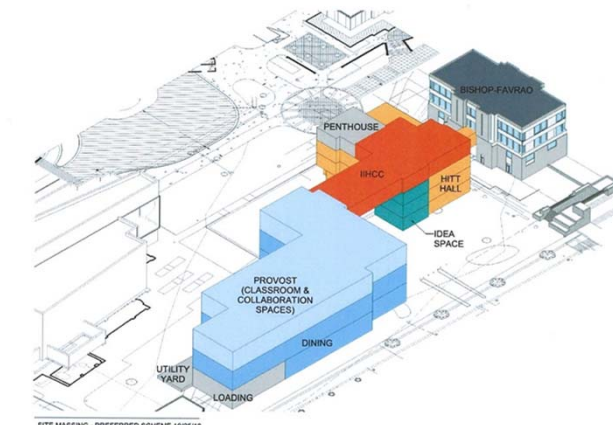
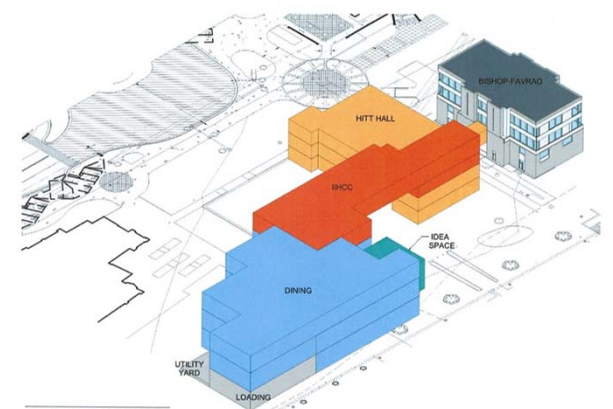
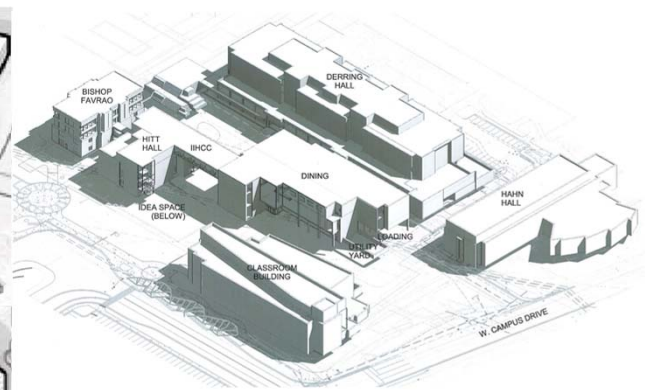
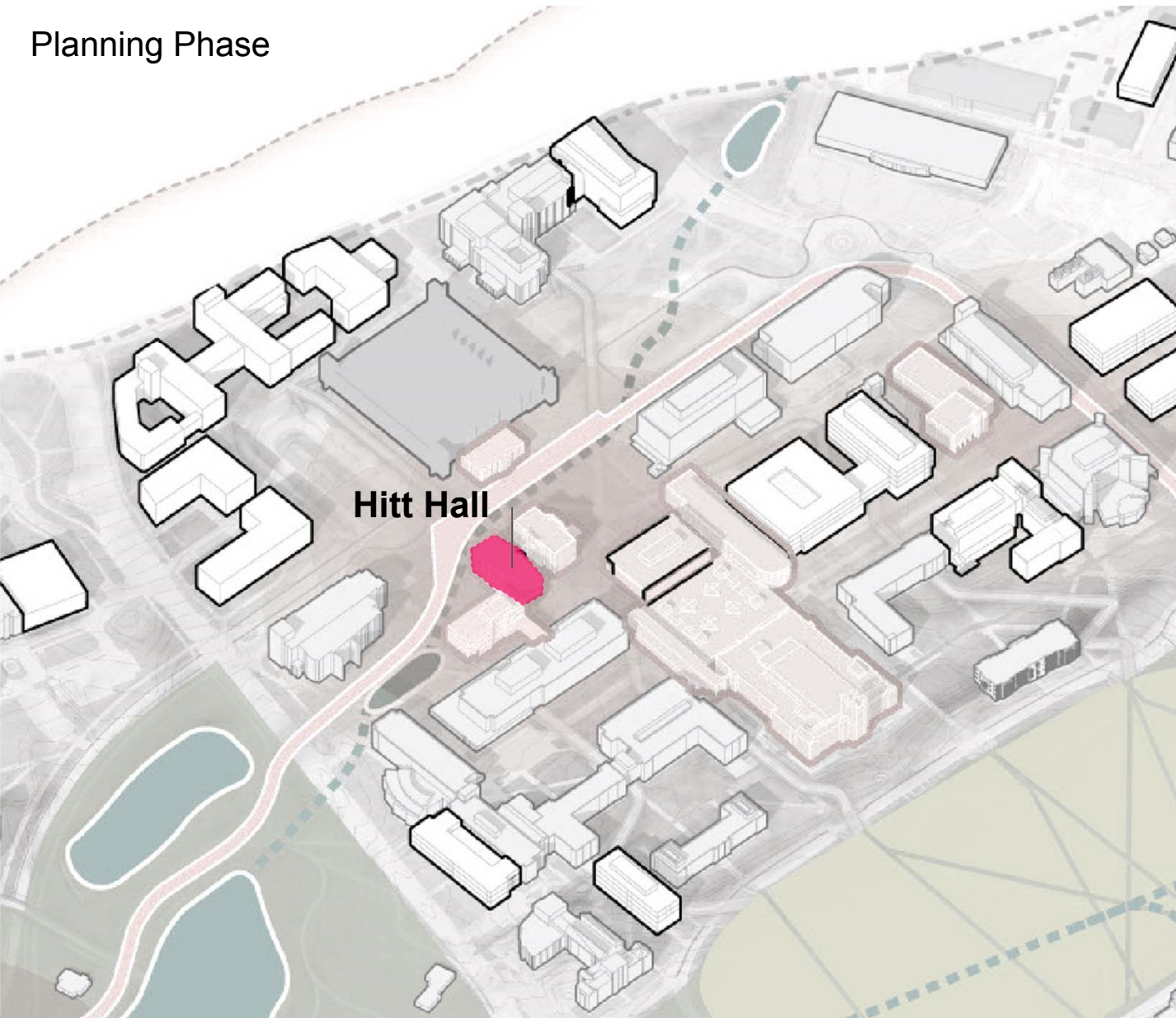
Phase 1
**renovation and
 upgrading
 of the RDF**
\$1.5MM

Phase 2
**increasing
 capability:
 the Dome
 of Innovation**
\$5 MM

Phase 3
**High Bay
 AD&C
 Phase III**

HITT Hall

Planning Phase



VT Living Lab | CAUS + DSA Pilot Project | CID Attachment 1 LLC

Design + Build Projects for Scholar/Artist in Residence Spaces
Achieved Within Set Budgets and Programs



Living Lab
CID
Living & Learning
Community

Pilot Project:
Artists-in-Residence
Rooms

Challenges

- Partnership for Incentive-Based Budgeting (PIBB) \$1.2M gap
- Enrollment Targets
- Washington-Alexandria Architecture Center (WAAC)
- Workforce Profile



Education and Research Innovation

Attachment E

Innovation Systems for Global Challenges
Practice-Based PhDs
Professional Development Programs
Big Sticky Projects



VT HITT Falls Church

Smart Construction Initiative

- National Center for Smart Construction
- Industry Partnerships with aligned partners
- New and Revised Graduate Offerings
- Professional Development Programs
- New Research Initiatives



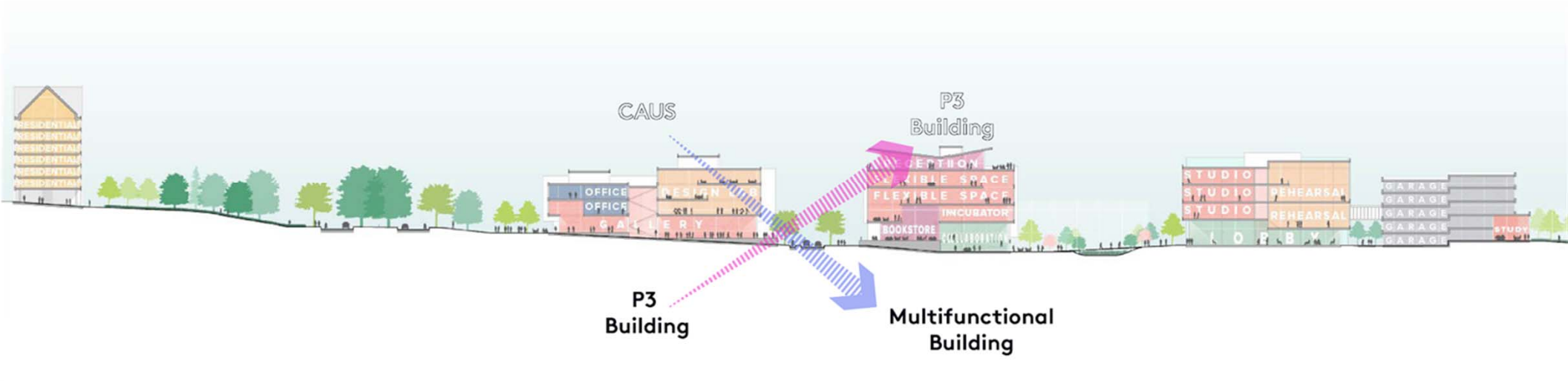
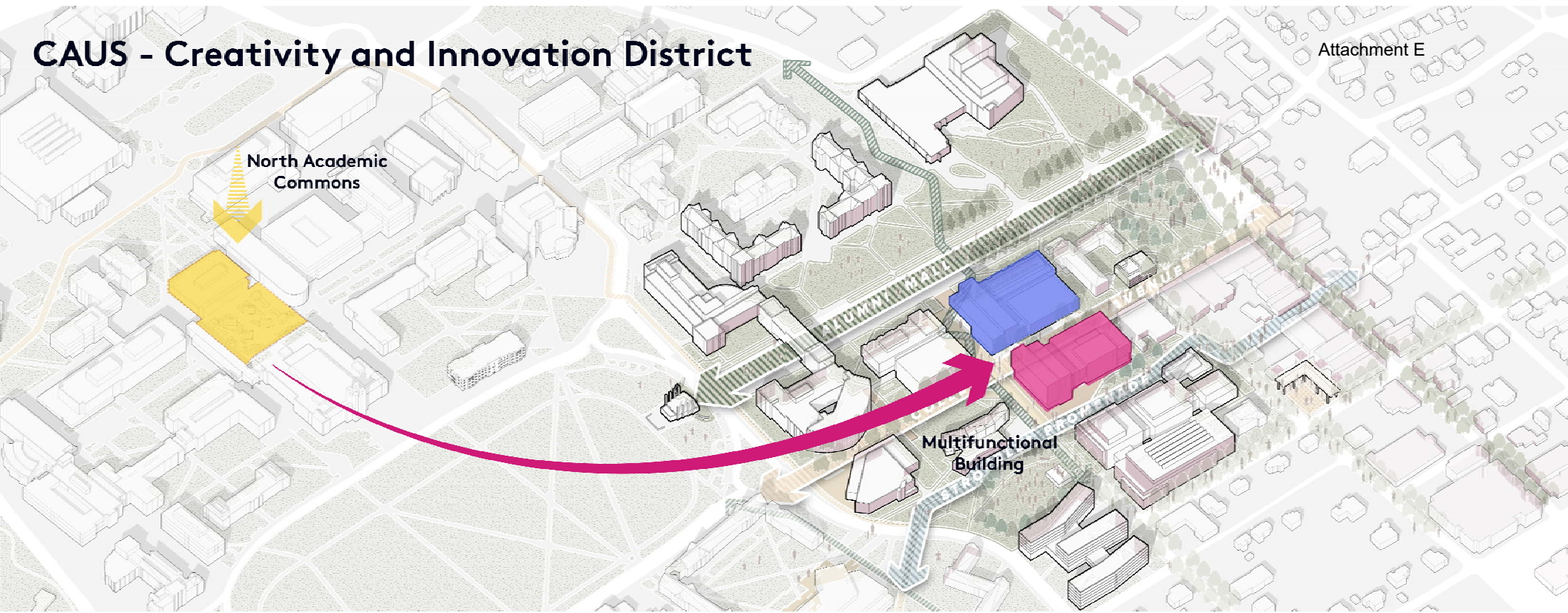
VT HITT Falls Church

Smart Construction Initiative

- \$10M gift from HITT
- \$5M+ partners
- 200,000fts + residential
- 50,000fts research laboratory
- 50,000fts lecture, exhibition and meeting space
- 100,000fts academic tower
- \$80M+ total project value
- 400-600 students



CAUS - Creativity and Innovation District





Questions and Discussion

Graduate Education at Virginia Tech: A Status Update

Karen P. DePauw, Ph.D.
Vice President and Dean for Graduate
Education

Virginia Tech Board of Visitors
Academic, Research, and Student Affairs Committee
April 1, 2019



Post Baccalaureate Education

170 degrees

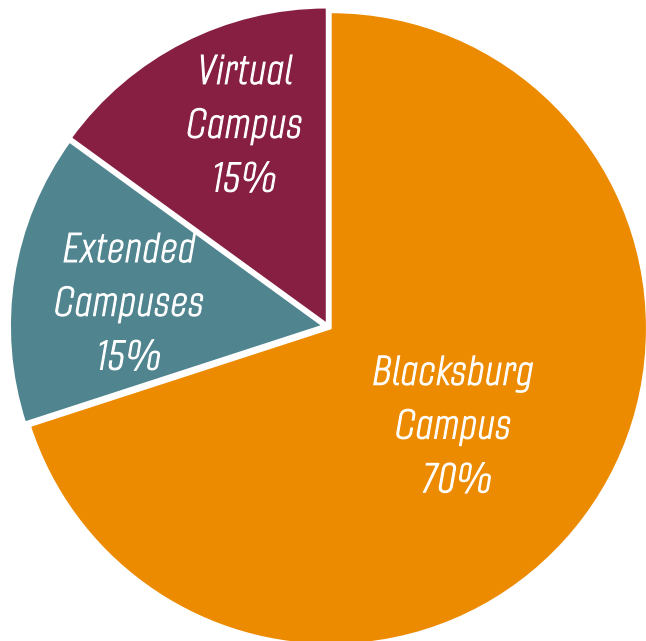
- *Ph.D.*
- *Ed.D.*
- *Master of Arts and Master of Science*
- *12 discipline-specific masters (e.g., MBA, MIT, MFA, MEng)*
- *50 graduate certificates*
- *Professional degrees: DVM, MD*



2018 Enrollment at a Glance

6,370 Graduate and Professional Students
2,956 Doctoral --- 3,414 Master's

12%
Underrepresented
Minority Students



31%
International
103
Countries

Top 5 Countries

China
India
Iran
South Korea
Bangladesh



Realizing Graduate Education

- *Complement and expand traditional academic training*
- *Transformative Graduate Education (TGE) prepares students for 21st century life and work*
- *Inclusive and affirming diverse and global community*
- *Interdisciplinary Graduate Education Programs (IGEPs)*
- *Implementation of recommendations made by the National Academies of Science, Engineering, and Medicine (2018)*
- *Provide career development and success-critical skills*



CONSENSUS STUDY REPORT

FWLPMIAHKRSFACULTYND
XREUQITZPXO7SDMAKQIYA
GMI **GRADUATE** XETZLRNL3S
KTNYMA **STEM** KUPWIWGBRM
ECQFO **EDUCATION** RSEJTNZ
N5LGBXP **FOR THE** HPXLIR
TWHADS **21ST CENTURY** OHY
BA4PXIAEXTMOJYFXIUNXS
JSCAREERABTFRPAHOT6E
8JATWMI PMAE4STUDENTSQ
XCXHDOK5XZ1OX7SDMAKPH
SLIWIR8ERNJMERN7OJYM3
NSTAOZXQ6HRESEARCHM3X
ER8YLFNUSWSNUIXFMLEJS
YOB SUZXIAMSTUIXFMLAIN
CG2JASBTOLUOYMSAOTGAX
9XBM I4DYXEBRHRBWFMEMR
IHXSLEOL2MXPELI9ZAXTS
EOYMCULTURE8CHANGETNA
ADEFHBSGXTYHUIYFMLA4OZ

*National Academies of
Science, Engineering, and Medicine 2018*

Attachment E
“... shift from the current system that focuses primarily on the needs of institutions of higher education and those of the research enterprise itself to one that is **student-centered**, placing greater emphasis and focus on **graduate students as individuals with diverse needs and challenges**. An ideal, student-centered STEM graduate education system would include **several attributes that are currently lacking in many academic institutions.**”

Transformative Graduate Education (TGE)

Knowledge

*Preparing Future Professoriate
(PFP)*

Scholarly Inquiry

Career Professional (PFPro)

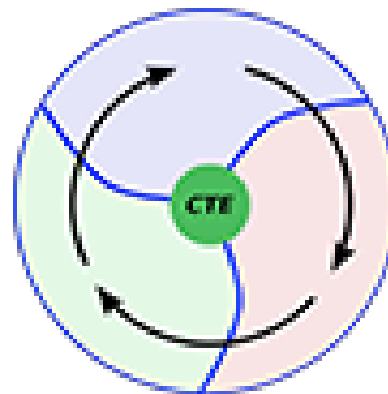
*Teaching/Learning, Academy for
GTA Excellence*

Leadership

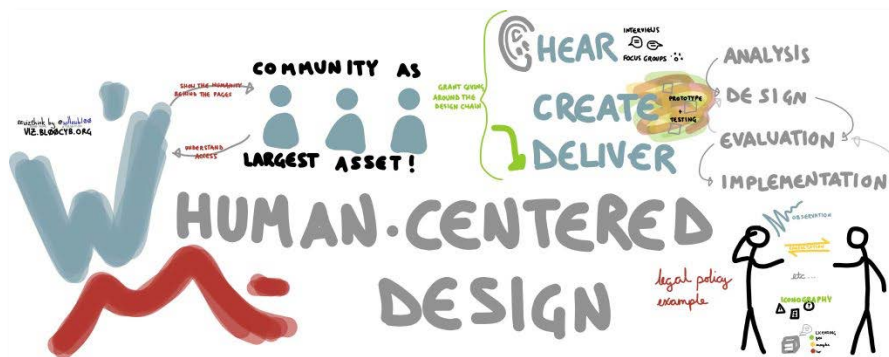
*Citizen Scholar Engagement (CSE)
Citizen Scholars*

Social Responsibility

*Communication Science & Public
Engagement*

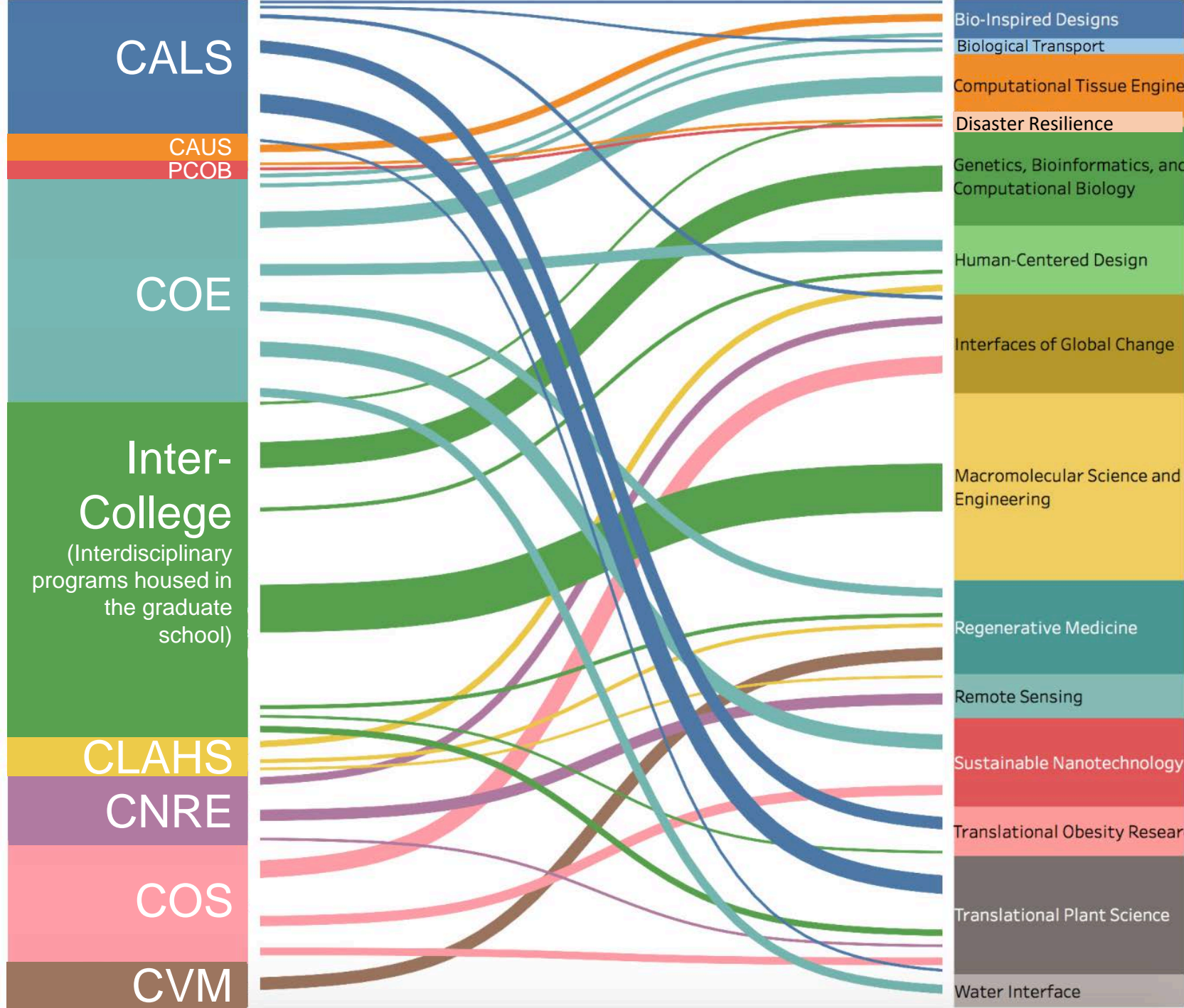


14 IGEPs
7 iPhD
325 students
270 faculty

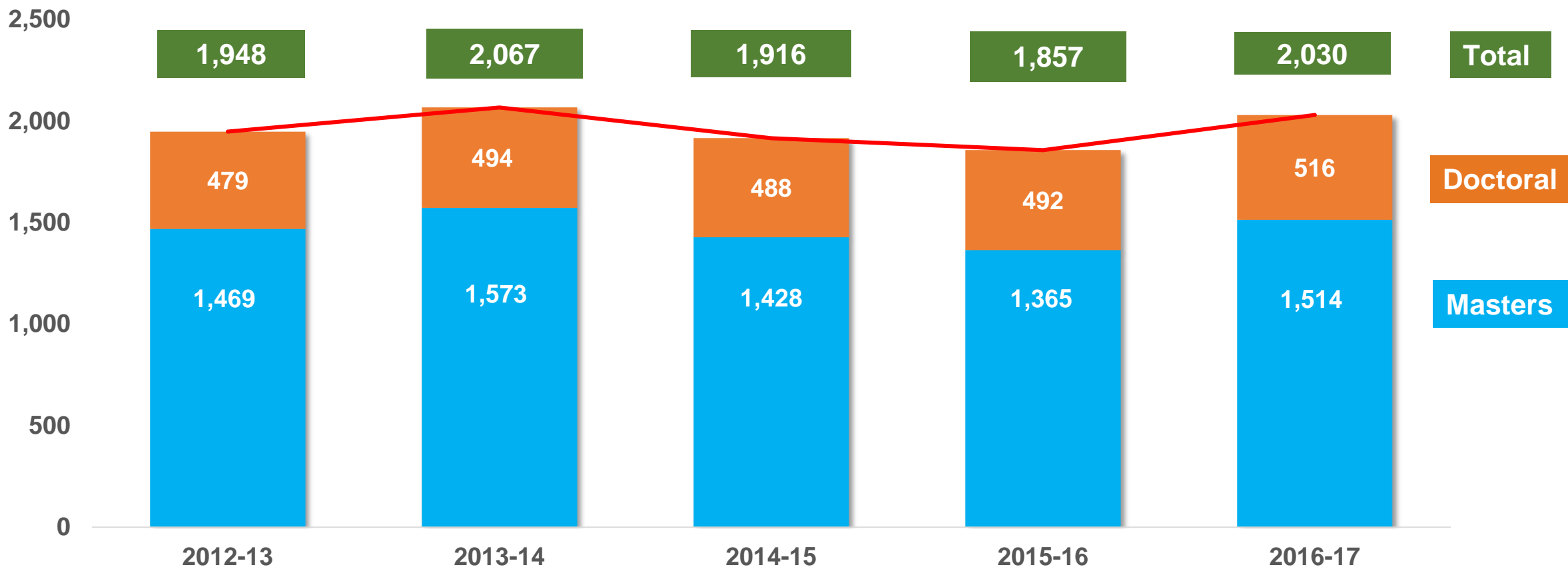


INTERDISCIPLINARY GRADUATE EDUCATION PROGRAM (IGEP)

PRIMARY MAJOR BY COLLEGE



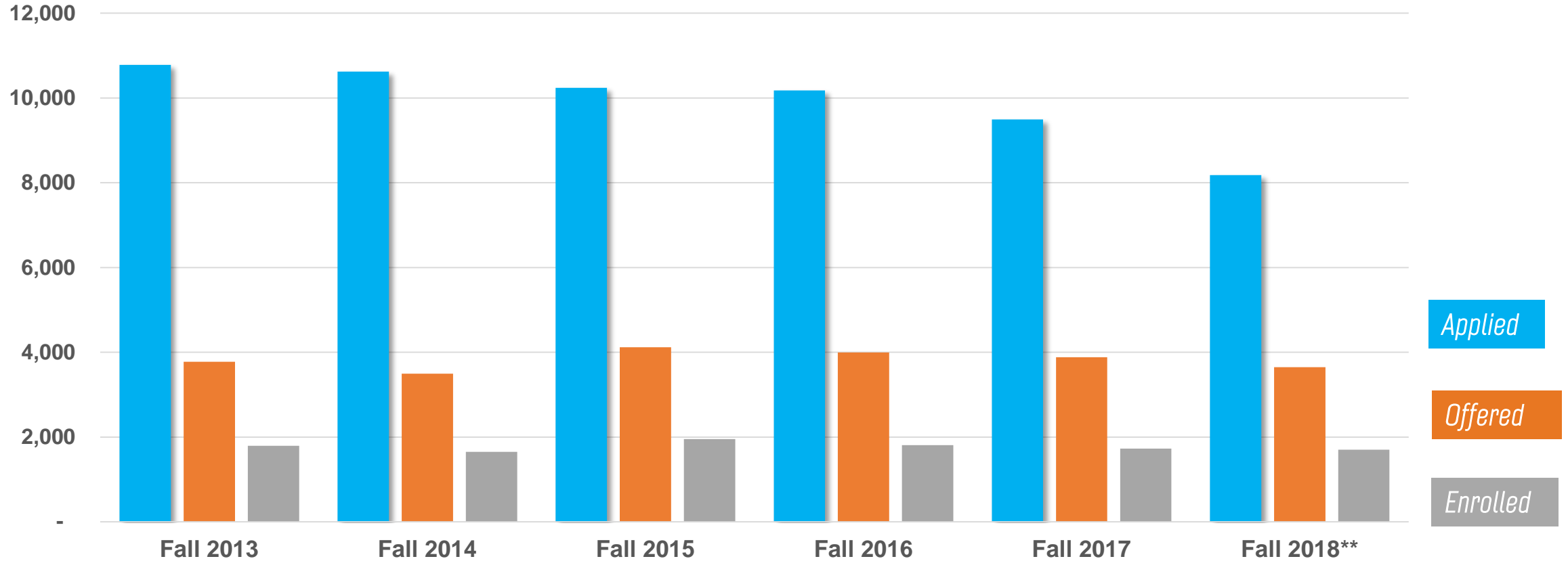
Degrees By Level



Average Time to Degree

	2013	2014	2015	2016	2017
Doctoral	4.9	5	4.8	5	5
Masters	2.5	2.5	2.6	2.5	2.4

Graduate Admissions



	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018**
<i>Applied</i>	10,782	10,624	10,236	10,175	9,490	8,181
<i>Offered</i>	3,776	3,496	4,116	3,994	3,881	3,651
<i>Enrolled</i>	1,794	1,649	1,950	1,809	1,726	1,701
<i>Admit %</i>	35%	33%	40%	39%	41%	45%
<i>Yield %</i>	48%	47%	47%	45%	44%	47%

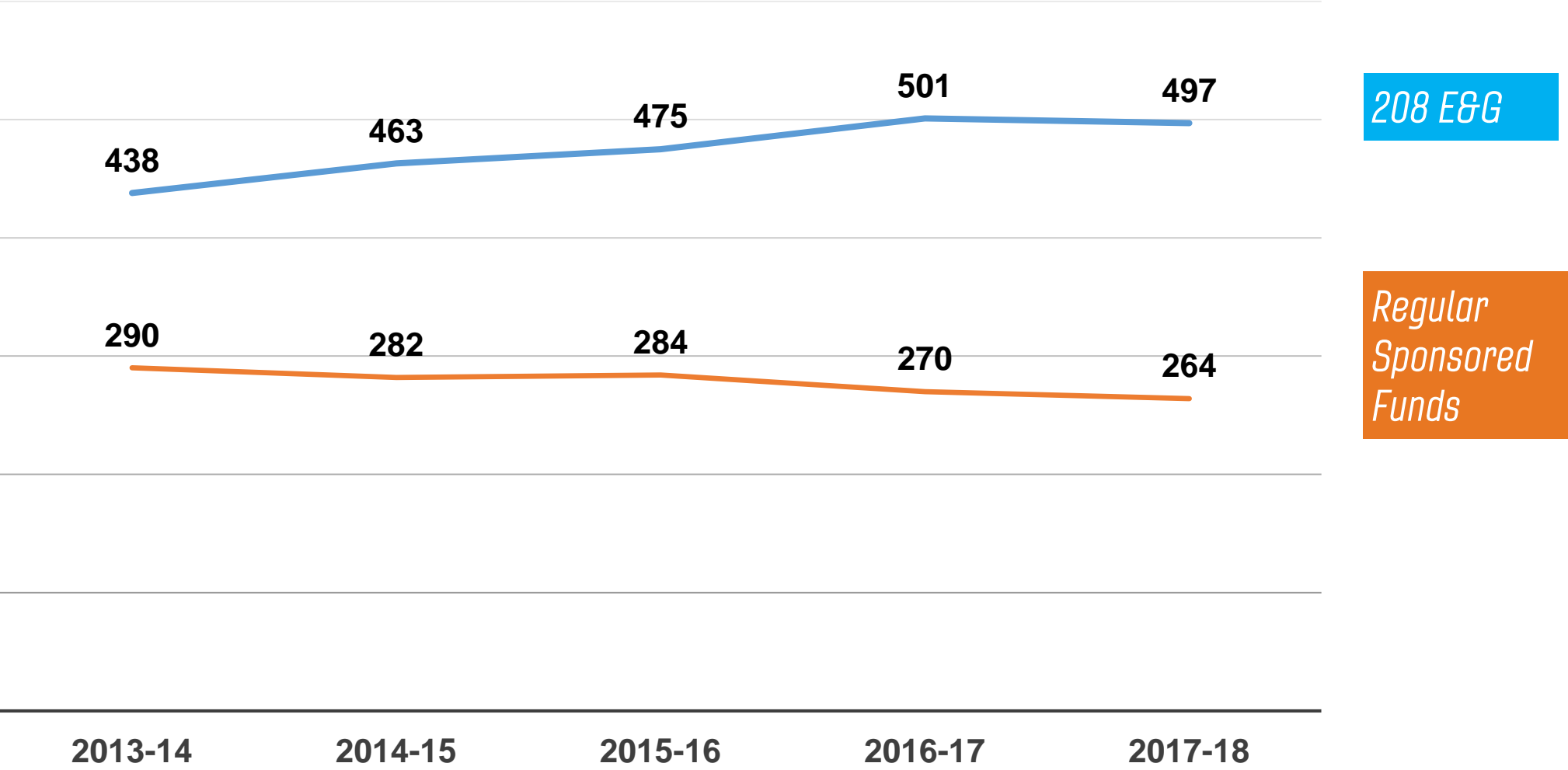
**preliminary

Challenges

- *Undergraduate enrollment increases*
- *Graduate Teaching Assistants (GTAs) increased, internally funded*
- *Graduate Research Assistants (GRAs) decreased, extramurally funded*
- *Need for competitive packages – including stipends, affordable housing and child care, health insurance*



Graduate Student Funding (FTE) By Source



Aspirations

- *Presence and opportunities in the National Capital Region - including Innovation Campus - throughout the Commonwealth*
- *Responsive and innovative portfolio of post baccalaureate programs, micro-credentials, degrees, certificates to meet societal needs*
- *Expand and enhance Transformative Graduate Education (TGE)*
 - *Interdisciplinary/transdisciplinary programs*
 - *inclusion and diversity and ethics requirements*
 - *learning, research and engagement missions*



Critical Next Steps

- *Increase graduate enrollment*
 - *PhDs*
 - *Masters*
 - *Professionally oriented*
- *Increase capacity and faculty:student ratio*
 - *To 1:3 from 1.6:1 for doctoral students*
 - *To 1:7 from 1:3.5 for graduate students*





*April 23, 2019 | National Capital Region
Falls Church, VA*

Graduate Life Center Graduate School

Attachment E



A Space and Place for Graduate Education