

Committee Minutes

COMPLIANCE, AUDIT, AND RISK COMMITTEE

Lavery Hall

9:30 a.m.

June 2, 2019

Closed Session

Committee Members: Mehmood Kazmi (chair), Robert Mills, Horacio Valeiras

Other Board Members: Dennis Treacy (rector), Preston White

VPI & SU Faculty and Staff: Ryan Hamilton, Kay Heidbreder, Sharon Kurek, Theresa Mayer, Kim O'Rourke, Timothy Sands

Compliance, Audit, and Risk Closed Session

1. **Motion for Closed Session:** Motion to begin closed session.

2. Internal Audit Reports

The following internal audit reports were issued by the Office of Audit, Risk, and Compliance (OARC) since the March 31, 2019 meeting. Where applicable, management developed action plans to effectively address the issue in the reports with a reasonable implementation timeframe. OARC conducts follow-up on management's implementation of agreed upon improvements for previously issued audit recommendations.

- a. Hume Center: The audit received a rating of improvements are recommended. An observation related to the security of computers used for research involving controlled unclassified information was noted.
- b. IT: Industrial Control Systems: The audit received a rating of improvements are recommended. Audit recommendations were issued where opportunities for further improvement were noted in the areas of documentation of procedures, physical security of the VTES building, and logical access controls for the Supervisory Control and Data Acquisition (SCADA) system at both VTES and the Steam Plant.

3. **Update on Fraud, Waste, and Abuse Cases:** The Committee received an update on outstanding fraud, waste, and abuse cases.
4. **Annual Performance Review of the Executive Director of Audit, Risk, and Compliance:** The Committee provided an annual performance review to the Executive Director of Audit, Risk, and Compliance.
5. **Discussion with the Executive Director of Audit, Risk, and Compliance:** The Executive Director discussed audits of specific departments and units where individual employees were identified.

Open Session

Committee Members: Mehmood Kazmi (chair), Robert Mills, Horacio Valeiras

Other Board Members: Dennis Treacy (rector), Preston White

Representatives to the Board: Zo Amani, Rachel Iwicki, Robert Sebek

VPI & SU Faculty and Staff: Charity Boyette, Lori Buchanan, Cyril Clarke, Al Cooper, Alisha Ebert, Lance Franklin, Michael Friedlander, Ryan Hamilton, Dee Harris, Kay Heidbreder, Sharon Kurek, Lisa Lee, Theresa Mayer, Nancy Meacham, Scott Midkiff, Ken Miller, April Myers, Kim O'Rourke, Mark Owczarski, Patty Perillo, Dwayne Pinkney, Chris Rahmes, Timothy Sands, Dwight Shelton, Tamarah Smith, John Talerico, Jon Clark Teglas, Madelynn Todd, Steve Vantine

Guests: DeAnn Compton (APA), Meghan Finney (APA)

Compliance, Audit, and Risk Open Session

1. **Motion to Reconvene in Open Session:** Motion to begin open session.
2. **Welcome and Introductory Remarks:** The chair of the Compliance, Audit, and Risk Committee provided opening remarks.
3. **Consent Agenda:** The Committee considered for approval and acceptance the items listed on the Consent Agenda.

- a. **Approval of Minutes of the March 31, 2019 Meeting:** The Committee reviewed and approved the minutes of the March 31, 2019 meeting.
 - b. **Update of Responses to Open Internal Audit Comments:** The Committee reviewed the university's update of responses to all previously issued internal audit reports. As of December 31, 2018, the university had three open recommendations. Three audit comments were issued during the third quarter of the fiscal year. As of March 31, 2019, the university had addressed two comments, leaving four open recommendations in progress.
 - c. **Audit Plan Status Report:** The committee reviewed the Audit Plan Status Report. OARC has completed 48 percent of its audit plan in accordance with the fiscal year 2018-19 annual audit plan.
 - d. **Internal Audit Reports:** The following internal audit reports were issued by OARC since the March 31, 2019 meeting. Where applicable, management developed action plans to effectively address the issues in the report with a reasonable implementation timeframe. As noted above, OARC conducts follow-up on management's implementation of agreed upon improvements for previously issued audit recommendations.
 - i. IT: Controlled Unclassified Information and Secure Research Environment.
 - ii. Student Medical Insurance Reimbursement Program.
4. **Annual External Audit Scope Discussion with the Auditor of Public Accounts:** The Committee met with the Auditor of Public Accounts (APA) for a discussion of the scope of the audit of the 2018-19 financial statements and the APA's plans for conducting and completing the audit.
5. **Proposed Audit Plan for Fiscal Year 2019-20:** The Committee reviewed the proposed audits included on the fiscal year 2019-20 annual audit plan. OARC conducted the annual risk assessment after reviewing financial and operational data and seeking input from senior management. In addition, a university-wide information technology risk assessment and audit plan were created in accordance with industry standards. For fiscal year 2019-20, more than 25 audit projects are proposed given current staffing levels, with approximately 75 percent of available resources committed to the completion of planned projects.

6. **ERM and IPC Program Updates:** The Committee received an update on the Enterprise Risk Management (ERM) program and institutional compliance program (ICP), including developments with the university-wide compliance matrix and associated risk assessments.
7. **ERM – Research:** The Vice President for Research and Innovation, Dr. Theresa Mayer, presented on key risks to the university associated with research, focusing on the enterprise risks posed by foreign influence.
8. **ICP – Research Compliance:** Dr. Mayer and Dr. Lisa Lee presented to the Committee on the topic of research compliance.
9. **Discussion of Future Topics:** The Committee briefly discussed topics to be covered in future committee meetings.

There being no further business, the meeting adjourned at 11:51 a.m.

Update of Responses to Open Audit Comments

COMPLIANCE, AUDIT, AND RISK COMMITTEE

March 31, 2019

As part of the internal audit process, university management participates in the opening and closing conferences and receives copies of all final audit reports. The audited units are responsible for implementing action plans by the agreed upon implementation dates, and management is responsible for ongoing oversight and monitoring of progress to ensure solutions are implemented without unnecessary delays. Management supports units as necessary when assistance is needed to complete an action plan. As units progress toward completion of an action plan, the Office of Audit, Risk, and Compliance (OARC) performs a follow-up visit within two weeks after the target implementation date. OARC is responsible for conducting independent follow up testing to verify mitigation of the risks identified in the recommendation and formally close the recommendation. As part of management's oversight and monitoring responsibility, this report is provided to update the Compliance, Audit, and Risk Committee on the status of outstanding recommendations. Management reviews and assesses recommendations with university-wide implications and shares the recommendations with responsible administrative departments for process improvements, additions or clarification of university policy, and inclusion in training programs and campus communications. Management continues to emphasize the prompt completion of action plans.

The report includes outstanding recommendations from compliance reviews and audit reports. Consistent with the report presented at the March Board meeting, the report of open recommendations includes three attachments:

- Attachment A summarizes each audit in order of final report date with extended and on-schedule open recommendations.
- Attachment B details all open medium and high priority recommendations for each audit in order of the original target completion date, and with an explanation for those having revised target dates or revised priority levels.
- Attachment C charts performance in implementing recommendations on schedule over the last seven years. The 100 percent on-schedule rate for fiscal year 2019 reflects closing 9 of 9 recommendations by the original target date.

The report presented at the March 31, 2019 meeting covered audit reports reviewed and accepted through December 31, 2018 and included three open medium and high priority recommendations. Activity for the quarter ended March 31, 2019 resulted in the following:

Open recommendations as of December 31, 2018	3
Add: medium and high priority recommendations accepted March 31, 2019	3
Subtract: recommendations addressed since December 31, 2018	2
Remaining open recommendations as of March 31, 2019	<u>4</u>

While this report is prepared as of the end of the quarter, management continues to receive updates from OARC regarding auditee progress on action plans. Through May 15, 2019, OARC has closed one of the four outstanding medium and high priority recommendations. The remaining open recommendations are progressing as expected and are on track to meet their respective target due dates. Management continues to work conjointly with all units and provides assistance as needed to ensure action plans are completed timely.

ATTACHMENT A

Attachment D

Open Recommendations by Priority Level**COMPLIANCE, AUDIT, AND RISK COMMITTEE****March 31, 2019**

Report Date	Audit Name	Audit Number	Total Recommendations						
			ISSUED	COMPLETED	OPEN				
					Extended		On-schedule		Total
					High	Medium	High	Medium	Open
19-Oct-18	Endowed Professorship Utilization	18-1370	1					1	1
05-Mar-19	IT-Third Party Access to University Data	19-1428	1					1	1
14-Mar-19	University Building Official	19-1434	2					2	2
Totals:			4	0	0	0	0	4	4

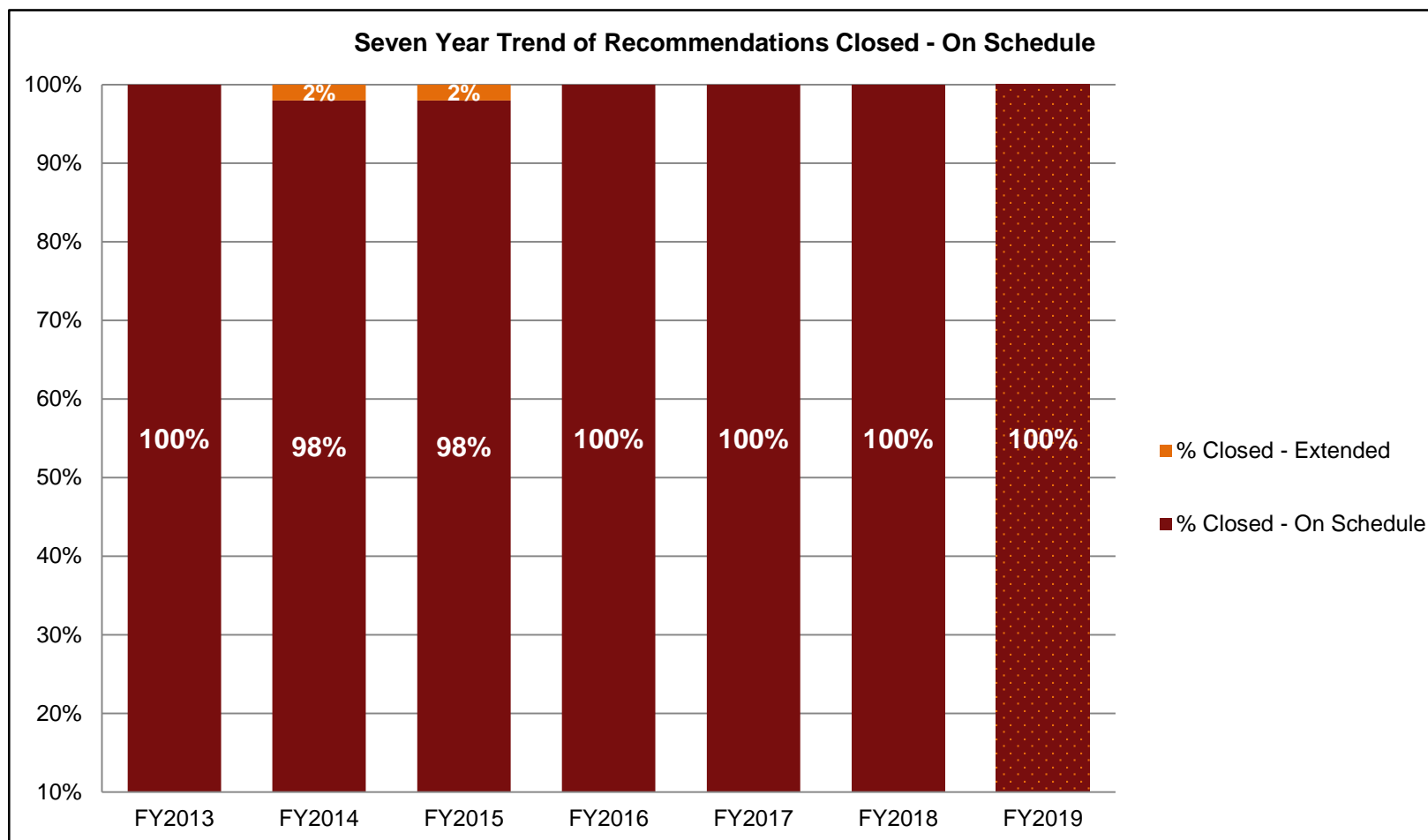
ATTACHMENT B**Open Audit Recommendations****COMPLIANCE, AUDIT, AND RISK COMMITTEE****March 31, 2019**

Report Date	Item	Audit Number	Audit Name	Recommendation Name	Priority		Target Date		Follow Up Status	Status of Recommendations with Revised Priority / Target Dates
					Original	Revised	Original	Revised		
04-Nov-18	1	18-1370	Endowed Professorship Utilization	Endowed Professorship Utilization	Medium		15-Oct-19		2	
05-Mar-19	2	19-1428	IT-Third Party Access to University Data	Contract Language	Medium		01-Jul-19		2	
14-Mar-19	3	19-1434	University Building Official	Entry and Approval of Time Spent on Capital Projects	Medium		10-Sep-19		2	
14-Mar-19	4	19-1434	University Building Official	Monitoring Permit Expiration	Medium		31-Dec-19		2	

Follow Up Status

- 1 As of May 3, 2019, management confirmed during follow up discussions with the Office of Audit, Risk, and Compliance (OARC) that actions are occurring and the target date will be met. OARC will conduct testing after the due date to confirm that the Management Action Plan is implemented in accordance with the recommendations.
- 2 Target date is beyond current calendar quarter. Management has follow-up discussions with the auditor to monitor progress, to assist with actions that may be needed to meet target dates, and to assess the feasibility of the target date.

For Open Detail Report: "current calendar quarter" is used to refer to the current working quarter instead of the quarter being reported on.

ATTACHMENT C**Management Performance and Trends Regarding
Office of Audit, Risk, and Compliance Recommendations****COMPLIANCE, AUDIT, AND RISK COMMITTEE****March 31, 2019**

Audit Plan Status Report

COMPLIANCE, AUDIT, AND RISK COMMITTEE

June 2, 2019

Audit Plan Update

Audits were performed in accordance with the fiscal year 2018-19 annual audit plan at a level consistent with the resources of the Office of Audit, Risk, and Compliance (OARC). Four risk-based audits have been completed since the March board meeting.

The following six audit projects are underway: Office of the University Bursar, Research: Grant Management, Research: Subrecipient Monitoring, University Registrar, and the policy compliance reviews for the College of Liberal Arts and Human Sciences and the College of Agriculture and Life Sciences. Additionally, an advisory service project related to Youth Protection Activities is ongoing.

So far in fiscal year 2018-19, OARC has completed 48 percent of its audit plan as depicted in Exhibit 1.

Exhibit 1 FY 2018-19 Completion of Audit Plan

Audits	
Total # of Audits Planned	22
Total # of Supplemental Audits	0
Total # of Carry Forwards	2
Total # of Planned Audits Canceled and/or Deferred	3
Total Audits in Plan as Amended	21
Total Audits Completed	10
Audits - Percentage Complete	48%
Audits - Percentage Complete or Underway	81%
Note: Includes Policy Compliance Reviews and Advisory Services	

Internal Audit Reports
COMPLIANCE, AUDIT, AND RISK COMMITTEE

June 2, 2019

Background

This report provides a summary of audit ratings issued this period and the full rating system definitions. The following reviews have been completed during this reporting period. The Office of Audit, Risk, and Compliance has made a concerted effort to ensure progress on the annual audit plan.

Consent Agenda Reports	Rating
IT: Controlled Unclassified Information and Secure Research Environment	N/A
Student Medical Insurance Reimbursement Program	N/A

Summary of Audit Ratings

The Office of Audit, Risk, and Compliance's rating system has four tiers from which to assess the controls designed by management to reduce exposures to risk in the area being audited. The auditor can use professional judgment in constructing the exact wording of the assessment in order to capture varying degrees of deficiency or significance.

Definitions of each assessment option

Effective – The audit identified opportunities for improvement in the internal control structure, but business risks are adequately controlled in most cases.

Improvements are Recommended – The audit identified occasional or isolated business risks that were not adequately or consistently controlled.

Significant or Immediate Improvements are Needed – The audit identified several control weaknesses that have caused, or are likely to cause, material errors, omissions, or irregularities to go undetected. The weaknesses are of such magnitude that senior management should undertake immediate corrective actions to mitigate the associated business risk and possible damages to the organization.

Unreliable – The audit identified numerous significant business risks for which management has not designed or consistently applied controls prior to the audit. Persistent and pervasive control weaknesses have caused or could cause significant errors, omissions, or irregularities to go undetected. The weaknesses are of such magnitude that senior management must undertake immediate corrective actions to bring the situation under control and avoid (additional) damages to the organization.

RECOMMENDATION:

That the internal audit reports listed above be accepted by the Compliance, Audit, and Risk Committee.

June 2, 2019

**Virginia Tech
Compliance, Audit, and Risk Committee
Entrance Conference Agenda
June 2, 2019**

1. APA Audit Management

- DeAnn Compton, Audit Director
- Meghan Finney, Auditor In-Charge

2. Audit Objectives, Audit Plan and Audit Roles:

a. Audit timing

- Audit Period – July 1, 2018 through June 30, 2019
- Audit Deadline – November 2019

b. Audit objectives – Our audit objectives are to provide an opinion on the university's financial statements that will be included with the financial statements that are distributed by the university. We will also issue a report on internal controls and compliance that will include any findings or recommendations that we may issue as a result of the audit.

c. Statewide single audit support – Audit work supporting the single audit was completed in the fall of 2018 and only follow up testwork will be completed for the Enrollment Reporting finding for the 2019 fiscal year.

d. Overview of the relationship between APA, management, and the Board – APA and Virginia Tech management work closely together in that APA is available to assist University staff during the report preparation process and we review the results of the financial statement preparation during the audit. APA follows up on all findings and recommendations to determine that management addresses findings promptly. At the completion of the audit, APA reports the results of our audits to the Board or the Audit Committee. We also work closely with internal audit throughout the year.

e. Responsibilities of management relative to internal control and financial statements – ARMICS outlines the University's responsibility for internal control and the University annually certifies its responsibilities for internal control and accurate financial statements. Our responsibility is to ensure that internal controls are adequate as designed and then to review whether they are operating as intended.

3. Audit Approach

- a. Our Office is continuously improving our audit approach by identifying, evaluating, and testing controls that are built into the university's administrative and financial system. We continue to identify, test, and evaluate manual processes and controls, as well.
- b. The final audit report may include recommendations to improve processes and the use of administrative systems. These may be separately identified as "efficiency recommendations."



4. Discussion of Risk with Board Members

The APA encourages the Board of Visitors to provide input regarding the risks they perceive to the University in completing its mission. While Board members can direct their comments to the Audit Committee Chair or the Internal Audit Director to be forwarded to the APA Project Manager, we also plan to meet directly with the Audit Committee Chair. We will discuss the following issues:

- Any areas of fraud risk
- Any areas of institutional risk
- Any matters that the Board believes should be considered in planning

5. Required Communication with Board



Required Communications with the Board

Management should acknowledge that they understand and agree to the following terms of the engagement and Management's responsibilities during the audit process.

Responsibilities during the audit process:

1. The Auditor's (APA) Responsibilities

Overall Audit Objectives

The objective of our audit is the expression of opinions as to whether your basic financial statements are fairly presented, in all material respects, in conformity with U.S. generally accepted accounting principles. We will conduct our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and standards for financial audits contained in the *Government Auditing Standards*. The audit of the financial statements does not relieve management or those charged with governance of their responsibilities.

Audit Procedures-General

An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; therefore, our audit will involve judgment about the number of transactions to be examined and the areas to be tested. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We will plan and perform the audit to obtain reasonable, rather than absolute assurance, about whether the financial statements are free of material misstatement whether from (1) errors, (2) fraudulent financial reporting, (3) misappropriation of assets, or (4) violations of laws or governmental regulations that are attributable to the entity or to acts by management or employees acting on behalf of the entity. Because the determination of abuse is subjective, *Government Auditing Standards* do not expect auditors to provide reasonable assurance of detecting abuse.

Because of the inherent limitations of an audit, together with the inherent limitations of internal control, an unavoidable risk that some material misstatements may not be detected exists, even though the audit is properly planned and performed in accordance with GAAS and *Government Auditing Standards*.

Audit Procedures-Internal Control and Compliance

Our audit will include obtaining an understanding of internal controls, sufficient to assess the risks of material misstatement of the financial statements and to design the nature, timing, and extent of further audit procedures. An audit is not designed to provide assurance on internal control or to identify significant deficiencies or material weaknesses. However, we will communicate in writing to management and those charged with governance any significant deficiencies or material weaknesses in internal control relevant to the audit of the financial statements that we have identified during the audit. Also, as part of obtaining reasonable assurance about whether the financial statements are free of material misstatement, we will perform tests of compliance with the provisions of applicable laws, regulations, contracts, agreements, and grants



Those charged with governance

We are responsible for communicating significant matters related to the financial statement audit that are, in the auditor's professional judgment, relevant to the responsibilities of those charged with governance in overseeing the financial reporting process. GAAS do not require the auditor to design procedures for the purpose of identifying other matters to communicate with those charged with governance.

2. Management's Responsibilities –

Our audit will be conducted on the basis that Management **acknowledge and understand that they have the following responsibilities:**

- Preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America
- Design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error
- Identify and ensure compliance with applicable laws, regulations, contracts, and grant agreements
- Informing the APA about all known or suspected fraud affecting the entity involving (1) management, (2) employees who have significant roles in internal control, and (3) others where the fraud could have a material effect on the financial statements
- Informing the APA (and others as required by the Code of Virginia § 30-138) of knowledge of any allegations of fraud or suspected fraud affecting the University received in communications from employees, former employees, regulators, or others
- As received, forward copies of each federal audit performed on agency or institution programs or activities to the Auditor of Public Accounts as required by Chapter 836 § 4-8.02 a. of the 2017 Virginia Acts of Assembly. To forward these reports to the Auditor of Public Accounts, use APAFederal@apa.virginia.gov. If the federal report is only available in hardcopy or contains FOIA exempt information, DO NOT email the report, use this same email account to notify the Auditor of Public Accounts of the federal report and provide the contact information of the individual with the report.
- Informing the APA of any potential documents that are FOIA exempt
- Ensuring that management is reliable and financial information is reliable and properly recorded
- Making all financial records and related information available to the APA
- Providing the APA with (1) access to all information of which you are aware that is relevant to the preparation and fair presentation of the financial statements, (2) additional information that we may request for the purpose of the audit, and (3) unrestricted access to persons within the government from whom we determine it necessary to obtain audit evidence
- Responding to audit findings and recommendations, as well as providing your planned corrective actions and the timing and format for providing that information
- Providing the APA at the end of the audit with a written letter confirming certain representations made during the audit
- Adjusting the financial statements to correct material misstatements and providing the APA with a representation that the effects of any uncorrected misstatements are immaterial, both individually and in the aggregate, to the financial statements taken as a whole



- Preparation of the supplementary information in conformity with U.S. generally accepted accounting principles. You agree to include our report on the supplementary information in any document that contains and indicates that we have reported on the supplementary information. Your responsibilities include acknowledging to us in the written representation letter that (1) you are responsible for presentation of the supplementary information in accordance with GAAP; (2) that you believe the supplementary information, including its form and content, is fairly presented in accordance with GAAP; (3) that the methods of measurement or presentation have not changed from those used in the prior period (or, if they have changed, the reasons for such changes); and (4) you have disclosed to us any significant assumptions or interpretations underlying the measurement or presentation of the supplementary information.

3. Audit Committee

- Communicate with APA about audit scope
- Communicate with management and internal audit regarding progress
- Receive reports and findings from management and external audit

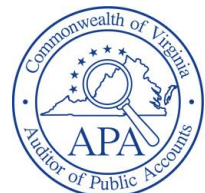
Other Elements of the audit process:

Overall planned scope of the audit

- **Approach to internal control** – We review internal controls to identify those areas where we can replace substantive testing with transactional testing. We look for management to have written formal policies and procedures and check for the implementation of those procedures.
- **Concept of materiality** – We do not review all transactions or accounts in detail. We use materiality to focus our work on those financial statement line items and those transactions that are material or significant to the University.

Identification of potential fraud risks

- **Approach to fraud** – Most of our audit is focused on our opinion on the financial statements and materiality. Our primary interest related to fraud would be in how it may affect the financial statements and those controls that the financial statements rely upon. The audit is not designed to detect error or fraud that is immaterial to the financial statements. However, we review policies and procedures for fraud risk and may direct our testwork towards addressing fraud risk.
- **Responsibility for identifying fraud risks and fraud** – Auditing standards require us to assess fraud risk, interview management and staff about their knowledge of fraud and fraud risk, and review exceptions for indications of possible fraudulent transactions. Auditors should be looking for red flag fraud indicators. Even though government entities are not always profit oriented, the auditors remain vigilant about financial statement fraud.
- **Report fraudulent transactions as required by Code of Virginia § 30-138** Agencies are responsible for reporting circumstances that suggest a reasonable possibility that a fraudulent transaction has



occurred involving funds or property under their control, where an officer or employee of the state or local government may be involved. Items should be reported to the Auditor of Public Accounts, the State Inspector General, and the Superintendent of State Police.

Audit Reporting

We will issue a written report upon completion of our audit of the University's financial statements. *We will make reference to the Component Auditor's audit of Virginia Tech Foundation, Inc. and Virginia Tech Services, Inc.* Our report will be addressed to the Board of Visitors of the University. We cannot provide assurance that an unmodified opinion will be expressed. Circumstances may arise in which it is necessary for us to modify our opinion or add an emphasis-of-matter or other-matter paragraph(s). If our opinions on the financial statements are other than unqualified (unmodified), we will discuss the reasons with you in advance. If, for any reason, we are unable to complete the audit or are unable to form or have not formed opinions, we may decline to express opinions or to issue a report as a result of this engagement.

We will also provide a report (that does not include an opinion) on internal control related to the financial statements and compliance with the provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a material effect on the financial statements as required by *Government Auditing Standards*. The report on internal control and compliance will include a statement that the report is intended solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Audit Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.





Office of Audit, Risk, and Compliance
Fiscal Year 2019-20 Audit Plan
June 2, 2019

OVERVIEW

The Office of Audit, Risk, and Compliance (OARC) conducts risk-based assurance engagements, policy compliance reviews, management advisory services, and investigations. The risk-based assurance engagement is an objective examination of evidence to provide an independent assessment of governance, risk management, and the control systems within the university. The objective of the policy compliance review is to ensure all senior management areas (even low risk) receive periodic reviews from OARC every five years to perform tests of compliance with major university business policies. The nature and scope of management advisory service activities, developed through agreement with the client, add value and improve the university's governance, risk management, and control processes without the internal auditor assuming management responsibility.

RISK ASSESSMENT PROCESS

Enterprise Risk Assessment (ERM)

The university instituted an Enterprise Risk Management (ERM) initiative during fiscal year 2017-18 to provide enhanced visibility into the university's risks and to align strategic planning with the resulting risk awareness. OARC facilitates the ERM program by working with university leadership to establish and maintain the framework for collectively identifying and assessing risks across the enterprise. The ERM program intends to strengthen the university's ability to achieve its mission and strategic objectives by:

- Obtaining a holistic view of the most critical risks to the achievement of Virginia Tech's mission and objectives;
- Creating a risk-aware culture, including the management of risks to an appropriate level of risk tolerance;
- Improving focus and perspective on both internal and external risks and opportunities, including emerging risks and value drivers;
- Enhancing decision making and alignment with strategic goals; and
- Improving efficiency and optimizing allocation of resources through risk prioritization.

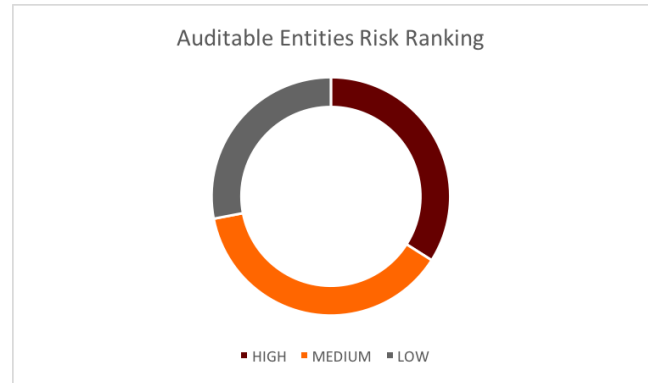
University leadership provided feedback for the initial ERM process by assessing the risks in terms of likelihood of occurrence, significance of impact, and velocity of onset, all grouped by the categories depicted below:

ERM RISK CATEGORIES	ALTITUDES OF RISK
Strategic	Systemic and Existential
Financial	Institutional
Compliance	Unit-Level
Operational	
Reputational	

In order to maximize efficiency and engagement from university senior leadership, OARC leveraged this complimentary process as an element of the traditional annual risk assessment in support of audit plan development.

OARC Audit Planning Risk Assessment

University departments and administrative operations were grouped into approximately 175 auditable entities or responsibility centers based on common missions and the existing organizational structure. For each auditable entity, OARC reviewed financial data, including expenditures, revenues, cash receipts, federal contracts and grants, and total employees.



The relative risk was assessed on a judgmental basis for the following qualitative and quantitative factors.

RISK FACTORS
Quality and Stability of Control Environment
Business Exposure (Materiality and Liquidity of Operational Resources)
Public and Political Sensitivity
Compliance Requirements
Information Technology and Management Reporting

Elements considered within these factors included:

- Management's awareness of internal controls;
- Stability and expertise of management;
- Interval since the last audit review;
- Complexity of operations and technology applications;
- Materiality or financial impact to the university;
- Potential impact to reputation;
- Impact of noncompliance with internal and external policy, procedure, regulatory, and statutory requirements; and
- Reliance on information and management reporting for operating decisions, monitoring performance, providing services, and allocating resources.

The chart depicts the results of the risk assessment classifications. The risk assessment results were consistent with previous risk assessments conducted by OARC.

IT Risk Assessment

OARC has also created a university-wide information technology (IT) risk-based audit plan mapped to the ISO 27002 standard, a best practice for developing and maintaining enterprise-wide IT security that is also referenced by university policies. OARC consulted with key IT personnel to ensure that audit coverage is maximized and properly targeted.

The assessment of IT and business operations at the university identified four high-level risk domains intended to encapsulate the vast majority of the systems and computing environments within the university as follows:

- Student Systems;
- Finance and Administrative Systems;
- Human Resources Systems; and
- Research Systems.

The IT audit approach includes a variety of topical audits to gain a better understanding of the university-wide environment instead of narrowly focusing on the performance of individual departments. This approach also allows OARC to maintain current knowledge of the IT security and operating conditions in a dynamic industry through the constant evaluation and reassessment of planned audit engagements.

CORE AUDIT PLAN

OARC has identified certain critical areas for inclusion in the core audit plan to ensure that adequate coverage is provided over a reasonable time. To obtain additional insight and to validate the plan, OARC management conducted one-on-one discussions with senior leadership to identify reputation factors, regulatory changes, organization shifts, new initiatives, and deployment of new systems or technology tools.

The critical areas for core audit plan inclusion are:

- | | |
|---------------------------------------|--------------------------|
| • Academic Units | • Human Resources |
| • Auxiliary Enterprises and Athletics | • Information Technology |
| • Campus Safety and Security | • Off-Campus Locations |
| • Enrollment Services | • Research |
| • Facilities and Operations | • Student Services |
| • Financial Management | |

The core audit plan includes several multi-year audits that will allow for annual reviews of selected components of entities with high external compliance risk and complex operations. These entities are University Scholarships and Financial Aid, Research, Human Resources, and Intercollegiate Athletics.

FISCAL YEAR 2019-20 AUDIT PLAN

The audit plan focuses on delivering value to Virginia Tech with an emphasis on the following risk areas: strategic, operational, financial, compliance, and IT. If new topics emerge during the audit plan period that require more immediate attention, reconfiguration of the plan can be undertaken to accommodate these changes. OARC's goal is to complete 85 percent of the audit plan. As each audit is undertaken, risks will be re-evaluated to ensure proper audit coverage with consideration of confidentiality, integrity, and availability. Annual expenditures and revenues referenced below reflect fiscal year 2017-18 data unless otherwise noted.

Risk-Based Assurance

Planned Engagement	Overview	Risk Area
Admissions	The admissions process in higher education has become a hot topic on the national stage, particularly with the media attention regarding recent scandals and law enforcement efforts. Admissions for prospective students is handled in a distributed manner, with freshman, transfer, and international admissions handled by Undergraduate Admissions within Enrollment Management at the university, and graduate admissions through the Graduate School. For the 2018 fall semester, Virginia Tech's Undergraduate Admissions and Graduate School received applications from approximately 32,000 and 7,500 students, respectively. Although this review will examine operations across the university, admissions activity was last reviewed for the Graduate School in 2016 and for Undergraduate Admissions in 2017.	Operational – Enrollment Services
Athletics *	The Department of Athletics (Athletics), with 22 varsity sports at the NCAA Division I level, monitors and supports more than 550 student-athletes each academic year. Athletics had operating revenues of approximately \$98 million and total operating expenses of approximately \$93 million. The Office of Audit, Risk, and Compliance conducts various components of a complete audit of Athletics over a five-year period.	Compliance – Athletics
Americans with Disabilities Act (ADA) Compliance	Virginia Tech is committed to equal opportunity in employment and education for individuals with disabilities and complies with the ADA, as amended, and Section 504 of the Rehabilitation Act of 1973. ADA and Accessibility Services consults with colleges and departments both on and off campus to ensure equal opportunity for individuals with disabilities. Employees with disabilities may be entitled to reasonable accommodations under Title 1 of the ADA. Given the applicability to students, the Services for Students with Disabilities office also has a role in helping to ensure reasonable accommodations and ADA compliance. ADA compliance has not previously received a focused review.	Compliance – Human Resources and Student Services
Center for International Research, Education and Development (CIRED)	As part of Virginia Tech's Outreach and International Affairs, CIRED is a university-wide center. It supports the university's international mission by identifying and pursuing partnerships and funding opportunities for Virginia Tech to become involved in research, teaching, and development across the world. Working with colleges, institutes, departments, and other centers, CIRED identifies areas where the university has distinct expertise and comparative advantages and matches them to specific funding opportunities. The center also strengthens faculty and student capabilities for high-quality, multidisciplinary international engagement.	Operational – Off-Campus Locations and Research

Planned Engagement	Overview	Risk Area
	Total expenditures were approximately \$7.9 million, including approximately \$6.2 million in research. This area last received a dedicated review in 2013.	
Center for the Arts	Virginia Tech's Moss Arts Center presents renowned artists from around the globe and from close to home, with a special focus on experiences that expand cultural awareness and deepen understanding. Uniquely partnered with the Institute for Creativity, Arts, and Technology, the Moss Arts Center houses the Street and Davis Performance Hall and its Anne and Ellen Fife Theatre, visual art galleries, experimental venue the Cube, and research studios. The Moss Arts center had approximately \$9.4 million in revenue and has not previously received a dedicated review.	Operational – Auxiliaries
Chemical Engineering	The Chemical Engineering department is addressing the challenges of the 21st century and preparing students to be tomorrow's leaders in industry and academia. Faculty and students do research in areas including energy and water sustainability, the environment, health technologies, and materials and manufacturing. Areas of expertise include biomedical engineering, polymer science and engineering, colloids and interfaces, process design and systems engineering, catalysis and surface science, supercritical fluids, and membranes and advanced separation techniques. Total expenditures were approximately \$8.9 million, including approximately \$3 million in research. Although previously included in college-wide audits, the department has not previously received a dedicated review,	Operational – Academic
Facilities: Site and Infrastructure Development	Site and Infrastructure Development is primarily responsible for the administration, compliance, and enforcement of Virginia Tech's stormwater management programs. The office is charged with managing, implementing, evaluating, and improving the university's municipal separate storm sewer system program and the standards and specifications for erosion and sediment control and stormwater management. Additionally, the office is charged with educating the university and surrounding community about stormwater impacts, including reporting illicit discharges, controlling stormwater runoff at construction sites, and working to prevent pollution from municipal operations. This area has not previously received a dedicated audit.	Compliance – Facilities and Operations
Graduate Education	The Virginia Tech Graduate School is responsible for the development, administration, and evaluation of graduate education throughout the University and administers all graduate degrees. The Graduate School currently offers more than 150 master's and doctoral programs for over 7,000 students at multiple locations throughout the Commonwealth of Virginia, through partnerships with the University of Maryland and Wake Forest University, and at several international sites. The last dedicated review was in 2013.	Operational – Enrollment Services
Human Resources: Payroll	The Payroll Office is responsible for paying all 12,000 University employees on time and correctly. They also make all payroll related tax deposits and reports, process retroactive funding changes, reconcile health care billings, make retroactive pay adjustments, pay all third party payroll vendors, as well as collect and disburse all garnishments, tax liens, and child support orders. In addition, they are responsible for obtaining and maintaining all I-9's and are charged with determining the taxability and employability of all non-resident alien employees. This area last received a dedicated review in 2012.	Operational – Human Resources

Planned Engagement	Overview	Risk Area
IT: Banner Applications	The applications within Banner (the university's Enterprise Resource Planning system); including modules for Student, Finance, Human Resources, and Financial Aid; serve as the primary system of record for comprehensive data related to students, employees, and alumni. This review will focus on the effectiveness of the university's enterprise system environment and ensuring its critical information is securely accessible while safeguarding against loss, abuse, and corruption. The last dedicated review in this area was in 2014.	Information Technology
IT: Data Privacy	Institutions of higher education use, collect, store, and transmit a wide array of data routinely. This data may include research data, academic records, medical information, financial data, and the personally identifiable data of faculty, staff, students, alumni, and any other person that comes into contact with the institution. Some of the ongoing federal or external regulations governing data privacy and its dissemination include: FERPA, HIPAA, GLBA, and more recently GDPR from the European Union. Many states have introduced additional privacy legislation that may impact the way the university operates. Individual privacy elements have been previously reviewed, but the broader topic has not received a dedicated audit.	Information Technology
IT: Log Management	According to the Center for Internet Security, deficiencies in security logging and analysis allow attackers to hide their location, malicious software, and activities on victim machines. Even if the victims know that their systems have been compromised, without protected and complete logging records they are blind to the details of the attack and to subsequent actions taken by the attackers. Without solid audit logs, an attack may go unnoticed indefinitely and the particular damages done may be irreversible. The five parameters of a complete log management process include collection, storage, search, correlation, and output. This topic has not previously received a dedicated audit.	Information Technology
IT: Windows Server Security	Servers are used widely to perform a variety of tasks, from network attached file storage or collaborative database hosting to processing email or print requests. As such, servers often present significant risks when not properly secured. A large percentage of the university's servers operate on the Windows platform. Focus will be on Windows Server security across the university, including distributed locations, in various administrative, academic, and research departments. Windows Server security was last audited in 2014.	Information Technology
Parking and Transportation	Virginia Tech has more than 16,400 parking spaces, a motorist assistance program, a fleet of approximately 300 vehicles, and a robust and award-winning alternative transportation program that includes daily shuttles from the Blacksburg campus to the facilities in Roanoke as well as to the National Capital Region. In addition to the 33,000 students and more than 13,000 employees, an estimated 60,000 alumni, parents, and community members visit the campus each year. This area had in excess of \$14 million in revenue and last received a dedicated review in 2014.	Operational – Auxiliary Enterprise
Physical Security	For a large decentralized university, physical security of people, equipment, and property always presents a significant challenge. Safety is a key priority for a variety of offices through the use of mechanisms including access control, security cameras, intrusion alarms, and notification systems. While physical keys are still heavily relied upon, more than 6,000 interior and exterior campus doors are now secured as part of the Hokie Passport Services (HPS) Electronic Door Access Program. Most of the university's card based access is centralized through HPS,	Operational - Campus Safety and Security

Planned Engagement	Overview	Risk Area
	but there are a few remaining standalone systems in use at the university. Various elements of physical security have been reviewed historically, but an over-arching review of this nature has not been performed.	
Research: Continuity of Operations *	As a global top 50 research institution, Virginia Tech has a tremendous amount of field and laboratory-based research being conducted at all times. These activities are dependent on many operational elements, including continued electricity, heating and/or refrigeration, humidity control, fire detection/suppression, lighting, network or Internet connectivity, among others. As a result, various university divisions inside and outside the academic enterprise all play a pivotal role in ensuring the continuity of research operations in support of achieving the university's strategic goals and operations. Various elements of operations continuity have been reviewed previously, but a targeted review of these activities as they relate to research has not been previously conducted.	Operational – Research
Research: Human Subject Safety *	The Human Research Protections Program (HRPP) at Virginia Tech is designed to support researchers in meeting their ethical and regulatory responsibilities to human research participants. The HRPP protocol coordinators are highly trained subject matter experts in the regulatory requirements for research that involves people. Federal regulations require that all research involving human participants undergo review by a board of scientific and faculty peers, called an Institutional Review Board, or IRB. This topic was last reviewed in 2012.	Compliance – Research
Title IX Compliance	Maintaining a campus free of sex discrimination, including sexual misconduct and sexual harassment, is important for all students and employees. Title IX of the Education Amendments (1972) prohibits discrimination on the basis of sex in any educational program or activity that receives federal financial assistance. Failure to comply with Title IX can include the termination of all or part of a university's federal funding. This includes grants, subsidies, and other program funds from the federal government. In addition to the loss of federal funds, universities may be sued by those seeking redress for violations of Title IX. It is essential that institutions receiving federal financial assistance operate in a nondiscriminatory manner. Although external reviews have occurred, this topic has not previously received a dedicated review.	Compliance – Campus Safety and Security
University Scholarships and Financial Aid*	The Office of University Scholarships and Financial Aid (USFA) supports the university's student access, enrollment, and retention goals by providing the financial means to encourage economic, social, cultural, and academic diversity in the student body. USFA provided or monitored approximately \$486 million in student financial assistance. A complete audit of the various activities within USFA is performed over a four-year period.	Compliance – Enrollment Services
Veterinary Teaching Hospital and Equine Medical Center	The Veterinary Teaching Hospital provides primary and specialized medical care and large animal ambulatory field services to animals residing in the Blacksburg area and referred by practitioners in the region. The Marion duPont Scott Equine Medical Center in Leesburg, Virginia is a full-service equine hospital which offers advanced specialty care, 24-hour emergency treatment, and diagnostic services. The hospitals and large animal field services treat a combined 79,000 animals annually. The hospitals had \$15.7 million in combined revenue. The last review of these areas was in 2012.	Operational - Academic

Planned Engagement	Overview	Risk Area
VCE – Northern District	Virginia Cooperative Extension (VCE) is an educational outreach program of Virginia's land-grant universities: Virginia Tech and Virginia State University. VCE – Northern District is made up of approximately 28 county and city offices and had \$6.9 million in expenditures and \$1.5 million in revenue, which was almost entirely in the form of cash receipts. A review focused specifically on the Northern District has not been conducted before; however, other districts have been reviewed previously.	Operational – Off-Campus Locations
Virginia Tech Transportation Institute (VTTI)	VTTI has grown from approximately 15 faculty, staff, and students to become the second largest university-level transportation institute in the U.S. with more than 500 employees. VTTI has effected significant change in public policies for driver, passenger, and pedestrian safety and is advancing the design of vehicles and infrastructure to increase safety and reduce environmental impacts. VTTI had nearly \$49 million in expenditures, including more than \$35 million in sponsored research, and last received a dedicated review in 2013.	Operational – Research

* Entity receives an annual audit on different components of their operation.

University Policy Compliance Reviews

OARC will continue its program of limited scope reviews of senior management areas. These reviews evaluate major aspects of a department's administrative processes using internal control questionnaires and limited testing that provides broad audit coverage ensuring compliance with university policies on campus.

Planned Engagement	Overview	Risk Area
School of Medicine	Through a unique public-private partnership between a cutting edge-research university and a major health care institution, the Virginia Tech Carilion School of Medicine educates physician thought leaders through inquiry, research, and discovery. The college has four value domains that drive its educational goals and objectives and that are interwoven throughout the four-year curriculum: basic science, clinical science, research, and interprofessionalism. Newly established as part of the university in 2018, there has not yet been a policy compliance review in this area.	Operational
College of Natural Resources and Environment	The College of Natural Resources and Environment (CNRE) is comprised of four academic departments containing eight undergraduate majors and is the only college specializing in natural resource education, research, and outreach in Virginia. CNRE had expenditures of \$37.8 million, including \$16.3 million in sponsored research. The last policy compliance audit of this area was in 2014.	Operational
College of Science	The College of Science (COS) is reimagining the role of science and education. COS students immerse themselves in hands-on learning and undergraduate research to help solve complex issues locally, regionally, and globally alongside our world-class faculty and research staff. COS had expenditures of nearly \$107.5 million, including \$26.3 million in sponsored research. The last policy compliance audit of this area was in 2015.	Operational
Vice President for Operations	The Vice President for Operations oversees the Division of Operations, which is responsible for providing essential operations functions in support of the university's mission. These include ensuring proper management of university physical assets; planning, design, construction, maintenance, and operation of the	Operational

Planned Engagement	Overview	Risk Area
	physical plant; managing real estate activities; complying with governmental, environmental, health, and safety regulations; assuring a safe and supportive campus environment; and others. The last policy compliance review in this area was in 2015.	
Vice President for Information Technology	The Vice President for Information Technology and Chief Information Officer oversees a division responsible for enhancing and supporting teaching and learning; participating in, supporting, and enhancing research; fostering outreach, developing partnerships with communities, and promoting the capabilities of advanced networking and communications; and providing, securing, and maintaining information systems allowing the university to accomplish its missions. The last policy compliance review in this area was in 2015.	Operational

Management Advisory Services

Planned Engagement	Overview	Risk Area
Research Institutes – Operational Alignment	The Office of the Vice President for Research and Innovation bolsters the research enterprise at Virginia Tech through services and support that help faculty, staff, and students plan, perform, and commercialize groundbreaking research. The research institutes of Virginia Tech enhance the university's ability to address large-scale research opportunities by crossing traditional disciplinary and college lines. This review is intended to assess the organizational structure, personnel reporting, and budget authority for Virginia Tech's university-level research institutes and university/institute-level centers in an effort to minimize risk.	Operational – Research
International Dependencies	Virginia Tech's mission is to be a leading global university; one that has a worldwide perspective, empowers graduates to solve world challenges, and is a top destination for global talent and innovation. Among the tremendous benefits, this global viewpoint introduces an element of risk in the form of dependency on international populations, governments, and infrastructure. This review is in follow-up to an Enterprise Risk Management tabletop exercise focused on potential impacts of reduced international student enrollment and will focus on specific and general takeaways regarding the identification of opportunities in this space.	Operational – Enrollment Services and Research
Honors College	The mission of the Virginia Tech Honors College is to inspire and facilitate an extraordinary undergraduate education for students of exceptional motivation with a variety of life experiences. Honors students seek to be active learners and strive to apply their knowledge and skills to tackling critical real-world problems. Academic and professional requirements maximize the disciplinary depth, transdisciplinary capabilities, inclusive perspectives, and purpose-driven engagement that are the hallmarks of the VT-Shaped student experience. This review is intended to assist management of this relatively new college in assessing its operational practices.	Operational – Academic Units

Special Projects and Annual Audit Activities

Activity	Overview
Special Projects	Investigate fraud, waste, and abuse allegations.
Annual Audit Activities (Follow-up, Inventory)	Conduct follow-up audit procedures to ensure that management is implementing controls as described within their responses to audit report recommendations. Assist management with year-end inventory counts for financial statement verifications.
External Audit Coordination	Manage and serve as the liaison for all external audit services, including contracted and regulatory-imposed audits.
Quality Assurance	OARC will undergo a mid-cycle review of its Quality Assurance and Improvement program to assess operations and practices with applicable standards. Additional effort will go into internal assessment to ensure the most effective and efficient procedures are in place and to identify means of improving overall performance.

AUDIT RESOURCES

The audit plan for fiscal year 2019-20 is based on professional staffing of 13 full-time equivalents (FTEs). Staffing will continue to be augmented by the continuation of the student internship program in which 3-4 Virginia Tech students are employed. Approximately 75 percent of OARC's available resources are committed to the completion of planned audit projects, management advisory reviews, and investigations. The annual audit plan is designed to provide appropriate coverage utilizing a variety of audit methodologies, including audits of individual units, functional and process audits, university-wide reviews, and information system projects. OARC conducts follow-up audit procedures throughout the year to ensure that management is implementing controls as described within their responses to audit report recommendations.

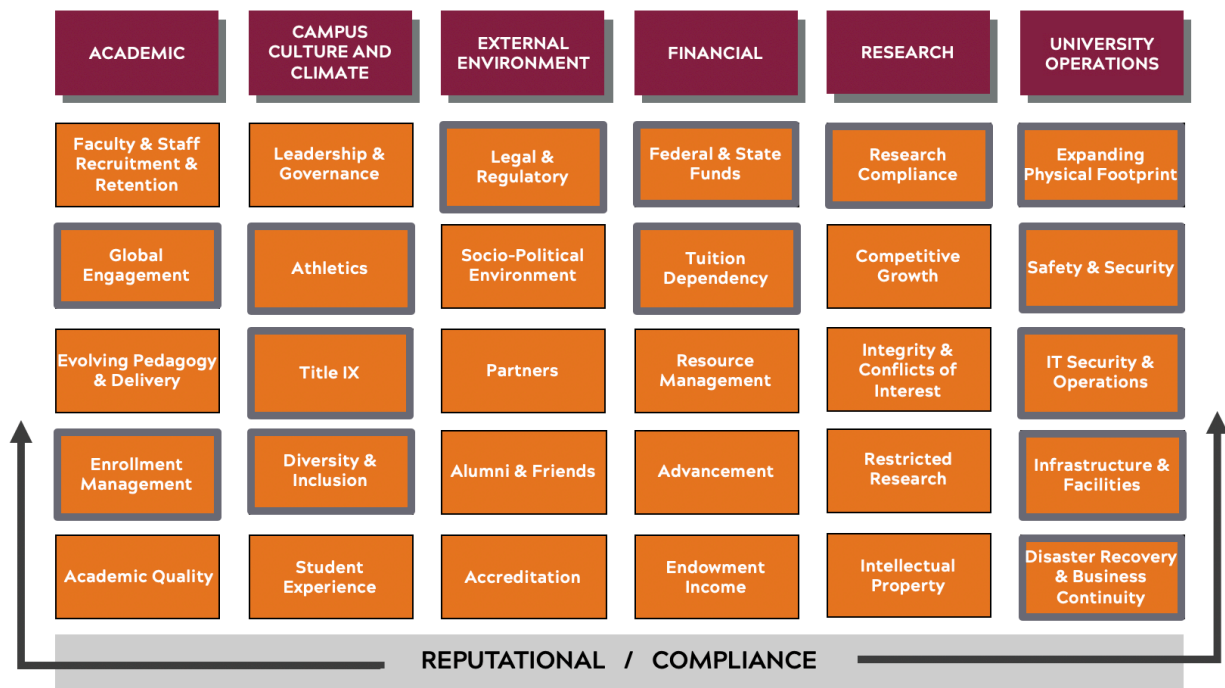
Audit resources are allocated as follows:

- 59 percent of OARC's available resources are committed to the completion of planned audit projects and follow-up audit procedures.
- 10 percent to accommodate requests from management and consultations with university departments.
- 7 percent to conduct investigations into fraud, waste, and abuse allegations.
- 11 percent for employee professional development, internal quality improvement projects, and other internal administrative functions.
- 13 percent for compensated absences such as annual, sick, and holiday leave.

AUDIT PLAN MAPPED TO ERM

As part of the ERM program, university leadership recently identified key residual risks across six thematic areas. The graphic below depicts how planned projects will provide audit coverage of enterprise risks.

ENTERPRISE RISK LANDSCAPE



OFFICE OF AUDIT, RISK, AND COMPLIANCE

PROPOSED AUDIT PLAN

Fiscal Year 2019-20

June 2, 2019

Sharon M. Kurek, CPA, CFE, MBA
Executive Director of Audit, Risk, and Compliance

OVERVIEW - ANNUAL AUDIT PLAN

The Office of Audit, Risk, and Compliance (OARC) conducts:

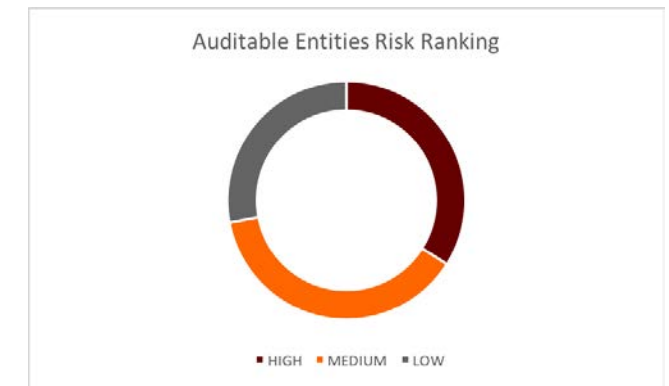
- Risk-Based Assurance Engagements
- Policy Compliance Reviews
- Management Advisory Services
- Investigations

Annual risk assessment process informs and guides the development of the audit plan for the next fiscal year

RISK ASSESSMENT PROCESS

Components of the annual risk assessment process included:

- **ERM**
 - Separate but related university initiative
 - Incorporates perspective of university leadership
- **OARC Audit Planning Risk Assessment**
 - Approximately 175 auditable entities
 - Control Environment, Business Exposure, Public Sensitivity, Compliance Requirements, Information Technology & Management Reporting
- **IT Risk Assessment**
 - Variety of systems and technologies to include emerging topics
 - Mapped to ISO 27002 standard



OVERVIEW - ANNUAL AUDIT PLAN

OARC has identified certain critical areas for inclusion in the core audit plan to ensure that adequate coverage is provided over a reasonable time. The critical areas for core audit plan inclusion are:

• Academic Units	• Human Resources
• Auxiliary Enterprises and Athletics	• Information Technology
• Campus Safety and Security	• Off-Campus Locations
• Enrollment Services	• Research
• Facilities and Operations	• Student Services
• Financial Management	

RISK-BASED AUDIT PROJECTS

The audit plan focuses on strategic, operational, financial, compliance, and IT risks. The audit plan will be reconfigured as needed when new topics requiring more immediate attention emerge.

Admissions	IT: Log Management
Athletics *	IT: Windows Server Security
ADA Compliance	Parking and Transportation
Center for the Arts	Physical Security
Center for International Research, Educ., & Development	Research: Continuity of Operations *
Chemical Engineering	Research: Human Subject Safety *
Facilities: Site and Infrastructure Development	Title IX Compliance
Graduate Education	University Scholarships and Financial Aid *
HR: Payroll *	Veterinary Teaching Hospital and Equine Medical Center
IT: Banner Applications	VCE Northern District
IT: Data Privacy (FERPA, GDPR, HIPAA, Domestic, etc.)	Virginia Tech Transportation Institute
	* Entity receives an annual audit on different operational components

POLICY COMPLIANCE AUDITS

OARC will continue its program of limited scope reviews of senior management areas. These surveys review major aspects of a department's administrative processes using internal control questionnaires and limited testing that provides broad audit coverage ensuring compliance with university policies on campus.

College of Natural Resources and Environment

College of Science

VTC School of Medicine (VTC SOM)

Vice President for Operations

Vice President for Diversity, Inclusion, and Strategic Affairs

Vice President for Information Technology

MANAGEMENT ADVISORY SERVICES

The nature and scope of management advisory service activities, developed through agreement with the client, add value and improve the university's governance, risk management, and control processes without the internal auditor assuming management responsibility.

Alignment of University-Level Research Institutes and Centers

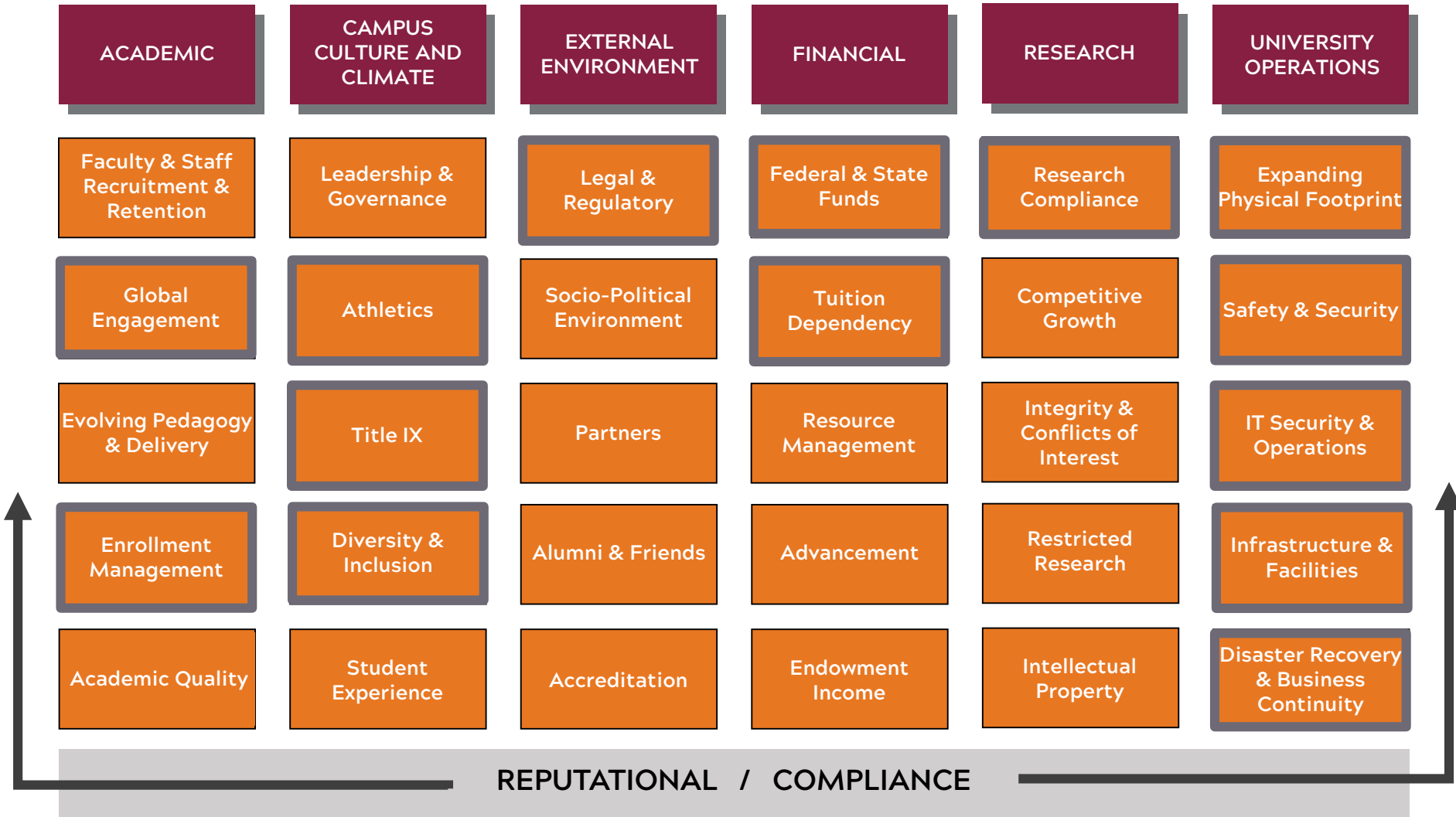
Foreign Influence

Honors College

AUDIT RESOURCES

- Audit Plan - professional staffing of 13 FTEs
 - Relative seniority for audit staff prioritized when filling positions at the urging of the audit committee
 - New Director of Internal Audit - onboarding Fall of 2019
- Student employee program - hire 3-4 Virginia Tech students
- OARC's available resources are allocated as follows:
 - 59% - completion of audit projects and follow-up
 - 10% - accommodate management requests
 - 7% - conduct investigations into fraud, waste, and abuse allegations
 - 11% - professional development, internal quality improvement, and administration
 - 13% - compensated absences such as annual, sick, and holiday leave

ENTERPRISE RISK LANDSCAPE



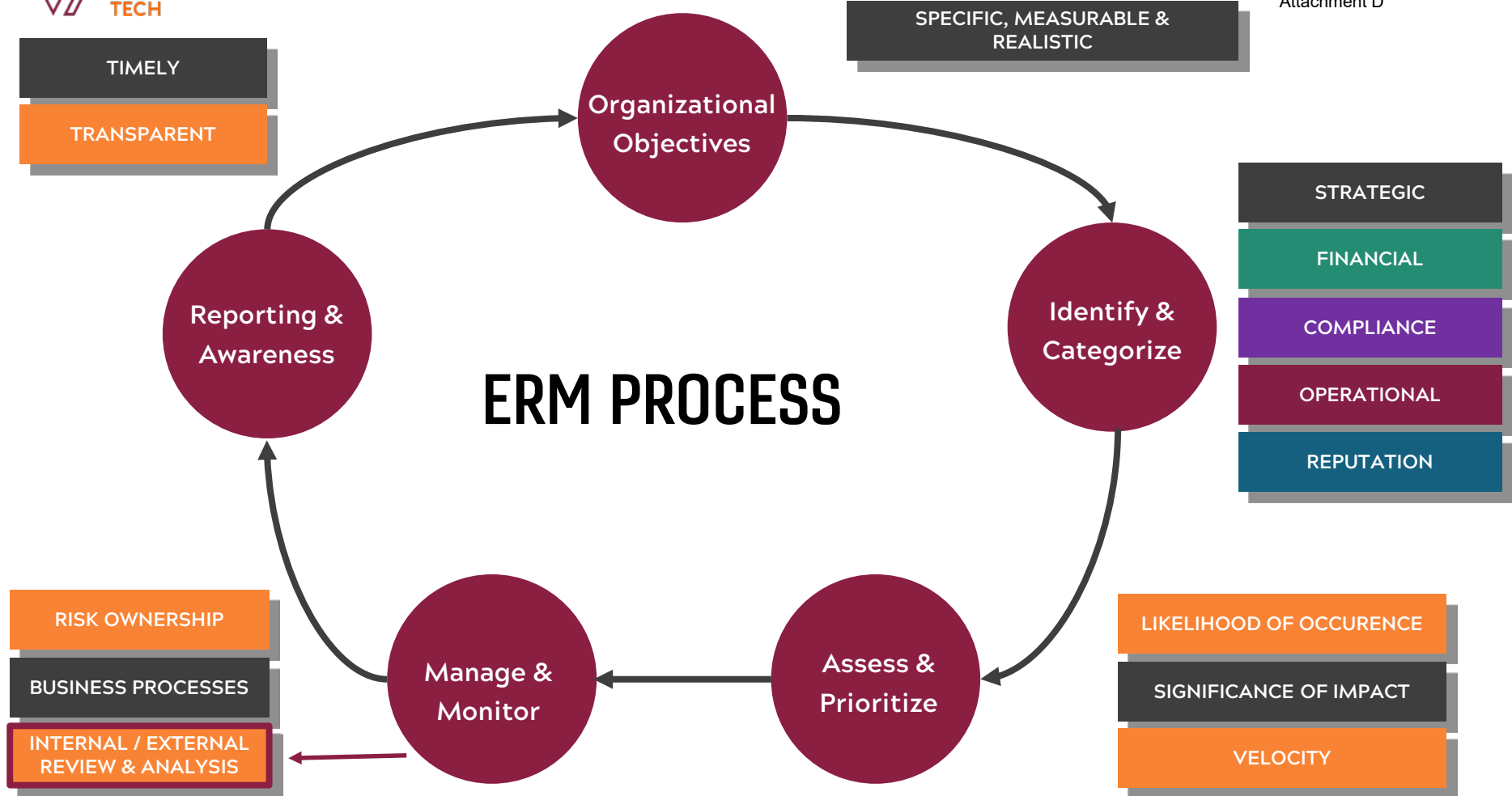
QUESTIONS?

June 2, 2019

ERM & ICP Program Updates

Sharon M. Kurek, CPA, CFE, MBA
Executive Director of Audit, Risk, and Compliance





Update since March

- *OARC continues to review Risk Snapshots with Risk Owners*
- *Next Tabletop Exercise scheduled*
 - *Tuesday, June 18*
 - *Topic – Succession Planning*
 - *Risk Owner – Human Resources*

Going Forward

- *Update Risk Snapshots for each enterprise risk as needed*
- *Periodic Tabletop Exercises*
- *OARC Deep Dive of Risk Snapshots with Risk Owners*
- *Periodic Reporting to OARC and ERM Committees*
- *Risk Owners Periodically Brief BOV*
- *Refresh Enterprise Risk Landscape & Heat Map in 2020*

Feedback on ERM Program After Year 1

Discussion on ERM Program

- *Enterprise Risk Landscape - Top 30 Risks*
 - *Risk Identification and Assessment*
- *Periodic Tabletop Exercises*
- *Risk Snapshots developed by Risk Owners*
- *Periodic Reporting to OARC and ERM Committees*
- *Risk Owners Periodically Brief BOV*
- *Periodic Evaluations of ERM Program for Continuous Improvement*

8 Elements of an Effective Compliance Program

**High-level personnel
exercising oversight**

**Written policies and
procedures**

**Training and
Education**

**Lines of
Communication**

**Well publicized
disciplinary
guidelines**

**Internal compliance
monitoring**

**Response to detected
offenses**

**Perform periodic
compliance risk
assessments**

ICP SUMMARY

Update since March

- The Compliance Advisory Committee (CAC) met once and approved the risk assessment methodology
- Distributed university-wide compliance owners completed reviews regulations in Compliance System for accuracy and completeness
- OARC and BAMS IT developed compliance risk assessments capability in online Compliance System
- CAC members provided feedback on external “hotline” category and reporting structure

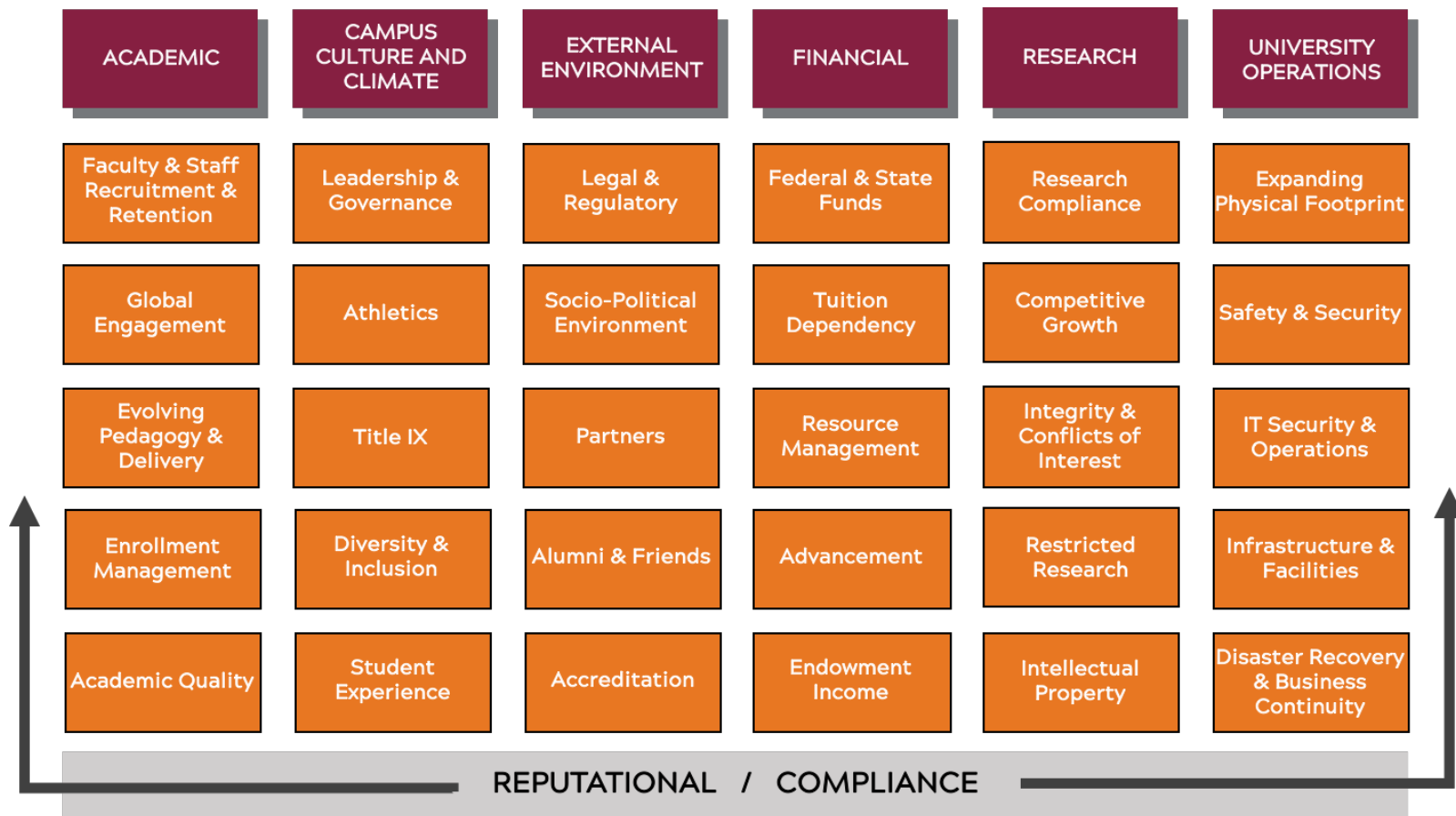
ICP SUMMARY

In Progress and Going Forward

- OARC is adjudicating the edits suggested by the distributed university-wide compliance owners during the review process
- OARC is finalizing customization of the external “hotline” and is on track for a summer launch
- Distributed university-wide compliance owners will begin the risk assessment process in the second half of June
- CAC meetings will shift from bimonthly to quarterly as members focus on oversight of the ICP

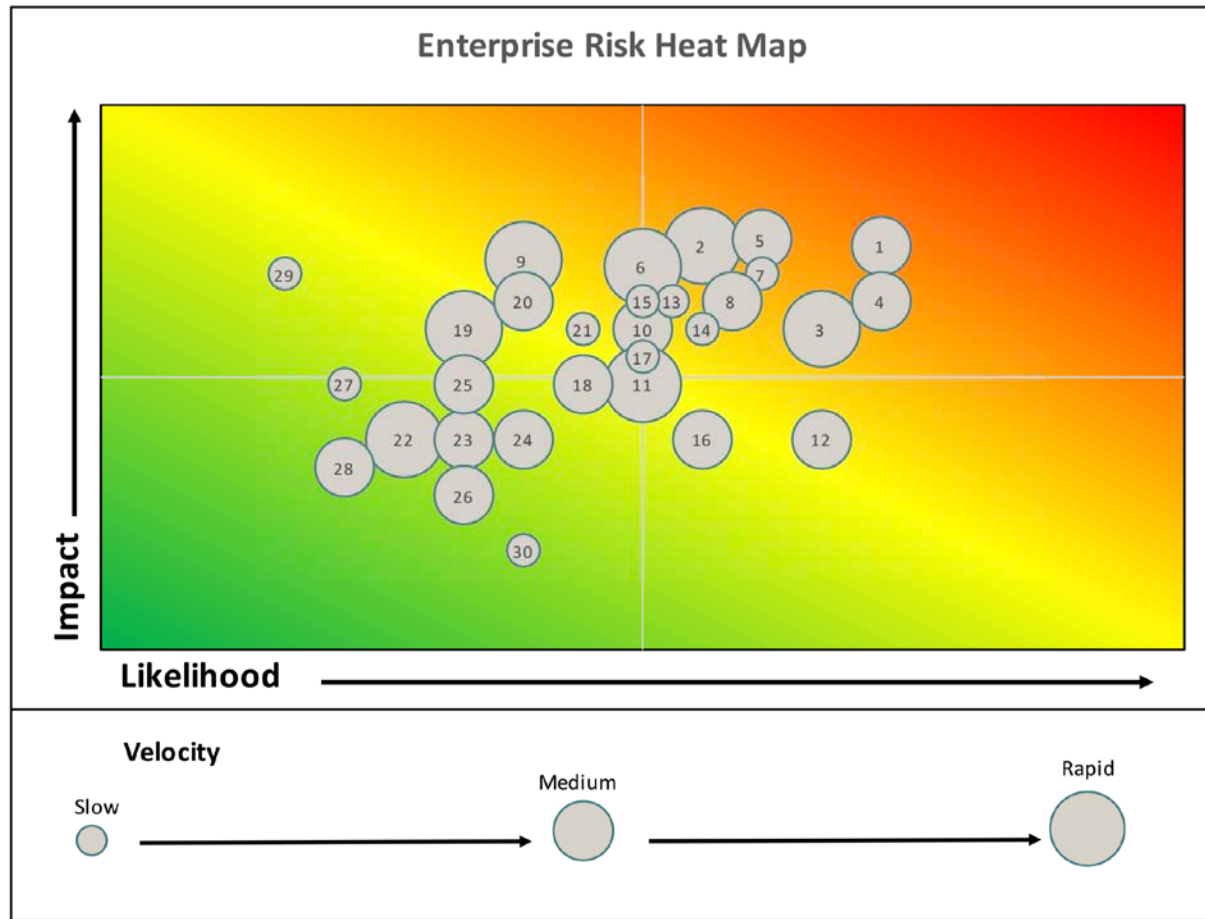
QUESTIONS?

Enterprise Risk Landscape



Enterprise Risk Heat Map

Attachment D



Graph Legend

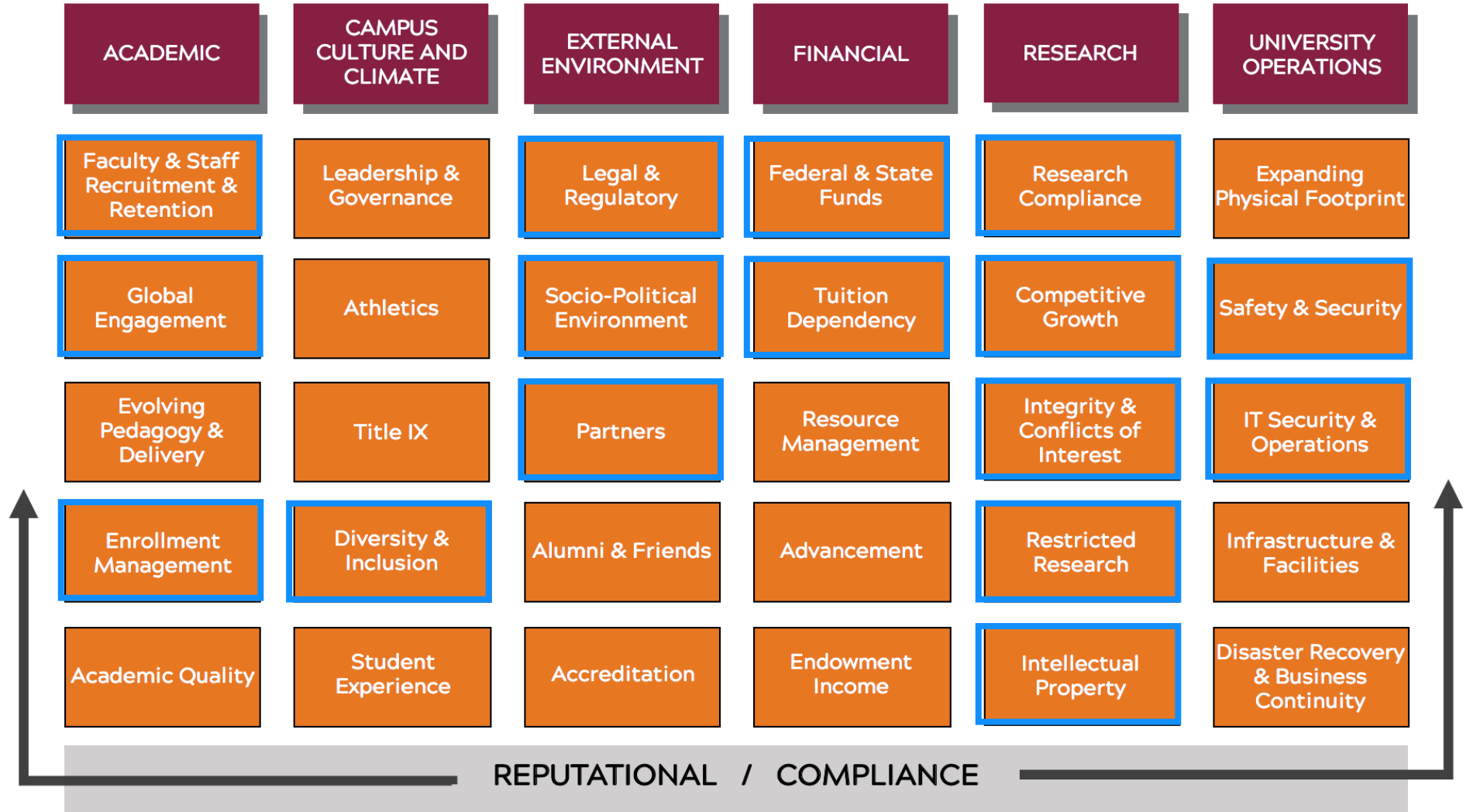
Number	Risk
1	Federal & State Funds
2	Legal & Regulatory
3	Socio-Political Environment
4	Tuition Dependency
5	Leadership & Governance
6	Athletics
7	Expanding Physical Footprint
8	Faculty & Staff Recruitment & Retention
9	Safety & Security
10	Research Compliance
11	IT Security & Operations
12	Global Engagement
13	Resource Management
14	Competitive Growth
15	Advancement
16	Title IX
17	Infrastructure & Facilities
18	Partners
19	Integrity & Conflicts of Interest
20	Evolving Pedagogy & Delivery
21	Diversity & Inclusion
22	Disaster Recovery & Business Continuity
23	Enrollment Management
24	Restricted Research
25	Endowment Income
26	Student Experience
27	Academic Quality
28	Alumni & Friends
29	Accreditation
30	Intellectual Property

「 Research & Innovation: Research Risks

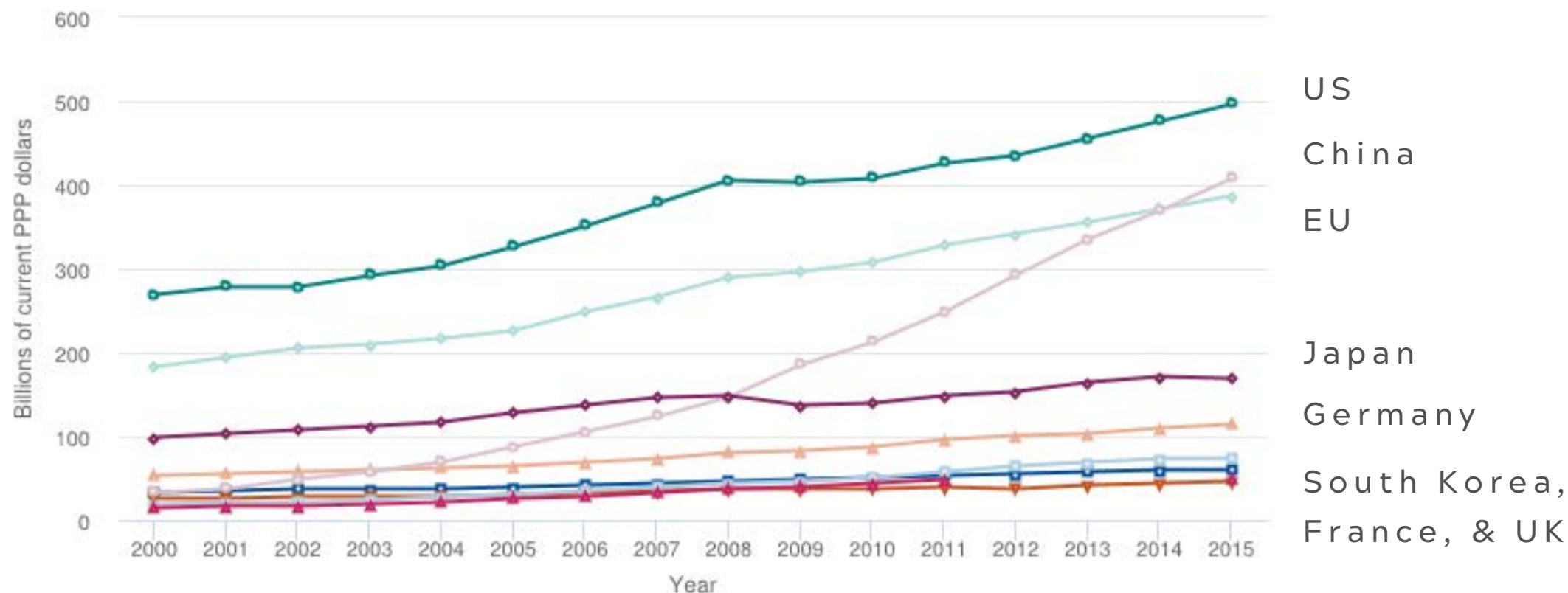
COMPLIANCE, AUDIT, AND RISK COMMITTEE

JUNE 2, 2019

ERM TOPIC: FOREIGN INFLUENCE & CHINA



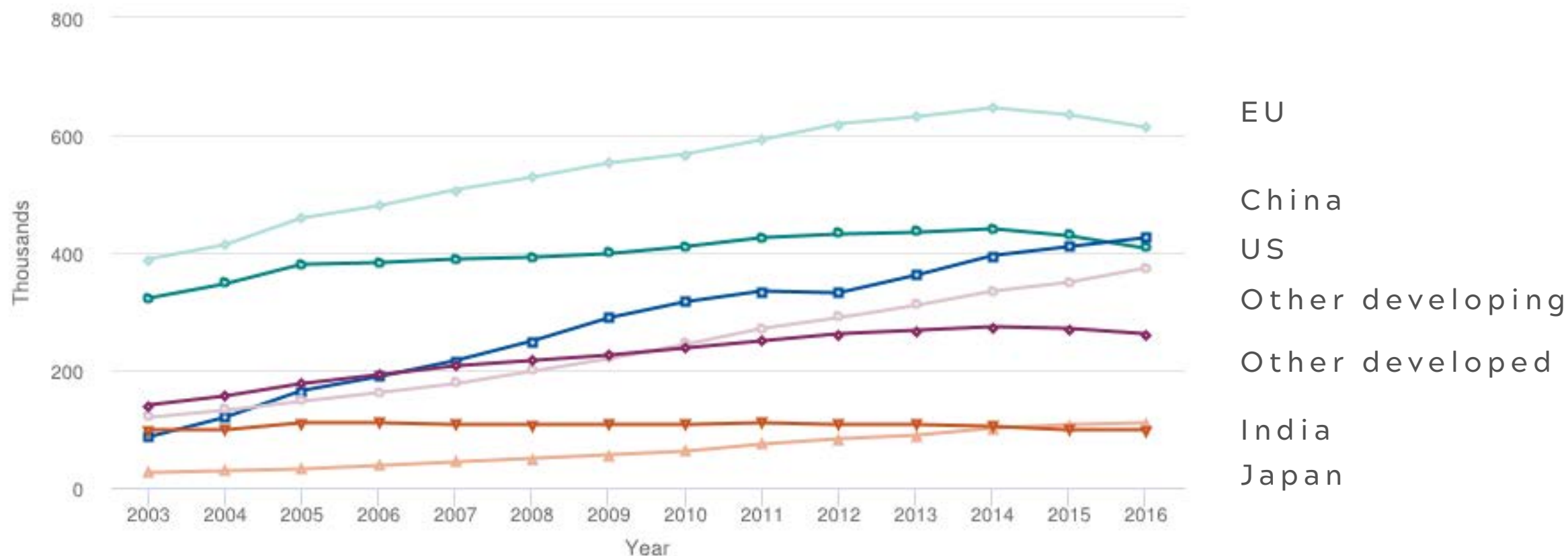
RAPIDLY CHANGING INTERNATIONAL LANDSCAPE



Gross domestic expenditures on R&D by region, country, or economy

* data AAAS website

RAPIDLY CHANGING INTERNATIONAL LANDSCAPE



Science & Engineering publications by region, country, or economy

* data AAAS website

Science vs. Security

Over past 18 months, the White House, federal agencies and Congress have all signaled concerns about theft of sensitive academic research by foreign competitors. Here's what's been happening.

By [Elizabeth Redden](#) // April 16, 2019

5 COMMENTS



Tension between national security and science -- by its nature open and international -- is nothing new.

But over the past year and a half, national security agencies, federal granting agencies, the White House and members of Congress have all signaled their increasing concern about international students or scholars who might seek to exploit the openness of the U.S. academic environment for their own -- or their nations' -- gain. And they're signaling that when it comes to the balance between scientific openness and national security -- and, to add a third dimension, economic competitiveness -- they're not happy with where that balance is being struck, especially when it comes to China.

Stealing Innovation

FBI director addresses efforts by China to steal academic research and technology. Higher ed groups say they're taking the issue seriously.

By [Elizabeth Redden](#) // April 29, 2019

2 COMMENTS



FBI director Christopher Wray speaks at the Council on Foreign Relations on Friday.

Federal Bureau of Investigation director Christopher Wray doubled down on arguing for the need for a "whole-of-society" response to economic espionage threats, in particular those emerging from China, and reiterated his view that academe needs to be more sophisticated about responding to these threats in [remarks](#) on Friday at the Council on Foreign Relations.

Two examples of the narrative emerging at the national level

NIH considers restrictions to counter foreign influence in research

An agency working group advises stronger security measures, but raises concerns about stigmatizing foreign researchers in the United States.

NEWS • 13 DECEMBER 2018 • UPDATE 17 DECEMBER 2018

US Government Escalates Opposition to Chinese Talent Recruitment Programs

Publication date: 8 February 2019 **Number:** 13

Influential senator asks NSF for data on threat from foreign influences

By Jeffrey Mervis | Apr. 15, 2019, 5:15 PM

US Adds Huawei and Affiliates to the Department of Commerce Entity List – What to Expect From the Final Rule

May 22, 2019

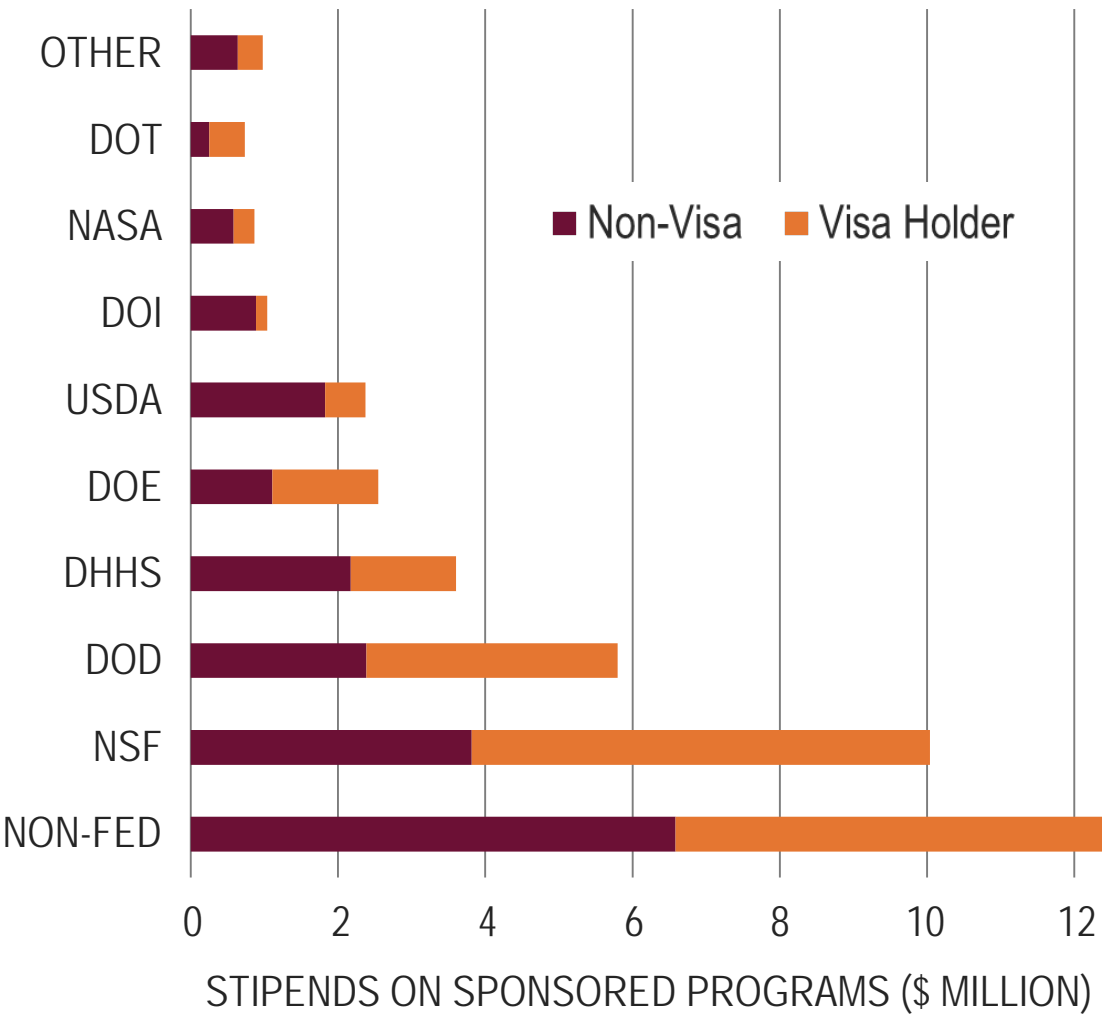
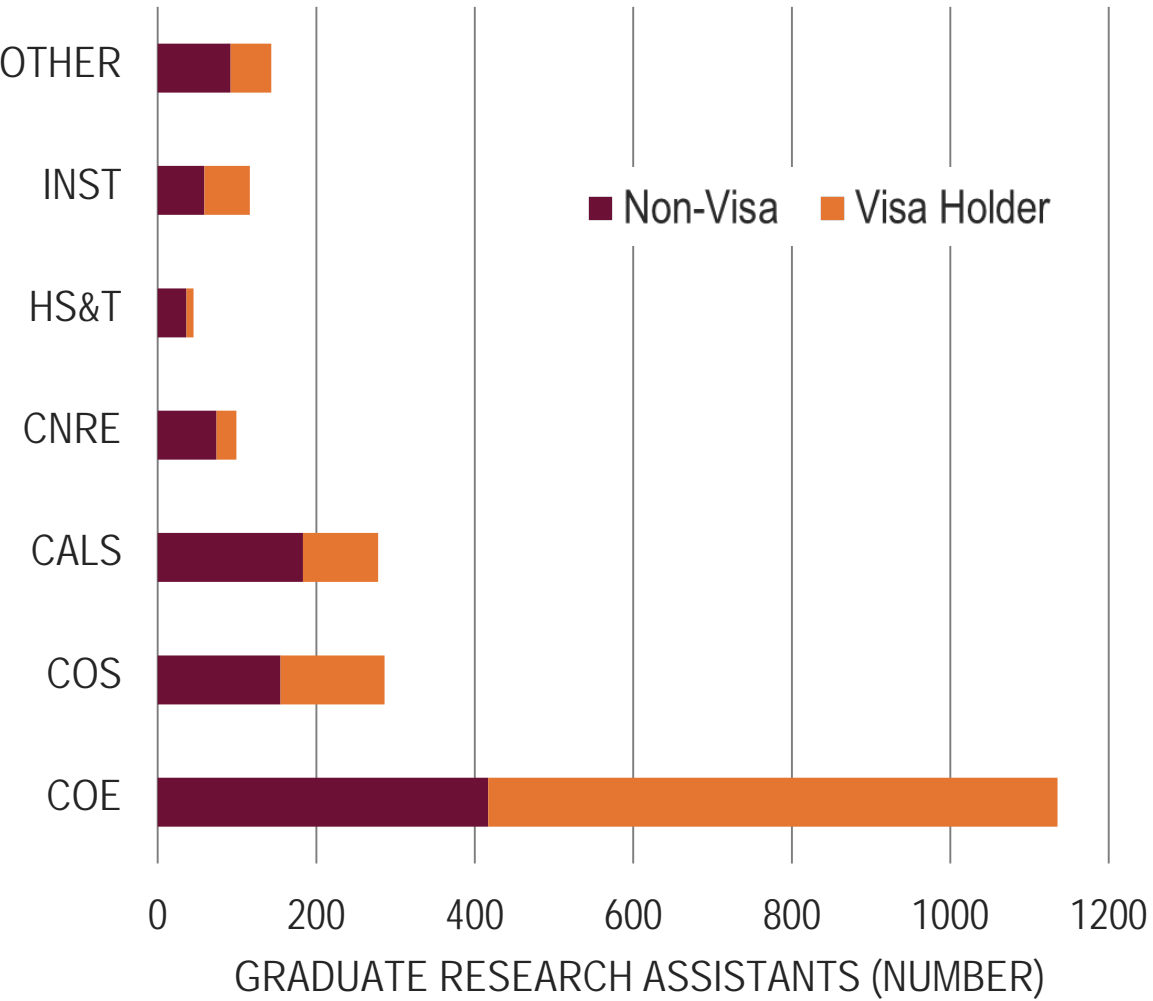
NATIONAL LAW REVIEW

FEDERAL AGENCIES ENGAGED IN NATIONAL CONVERSATION

New restrictions are being considered:

- Extreme position is a ban on foreign national participation on fundamental research (6.1 and 6.2) programs from some agencies
- Compromise position could involve establishing a review board similar to IRB or IACUC
- Additional companies, such as Huawei and 60+ affiliates, being placed on Bureau of Industry and Security (BIS) entity list.

GRADUATE ASSISTANTS ON SPONSORED PROGRAMS





DEFENSE SECURITY SERVICE
27130 TELEGRAPH ROAD
QUANTICO, VA 22134

FEB 21 2019

Dr. Timothy Sands
President, Virginia Polytechnic Institute and State University
Office of the President (0131)
Burruss Hall, Suite 210
800 Drillfield Drive
Blacksburg, VA 24061

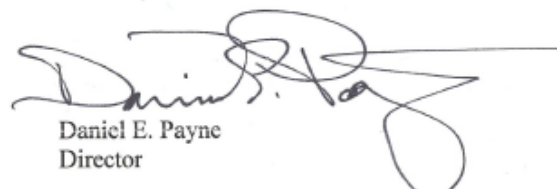
Dear Dr. Sands:

I am pleased to inform you that Virginia Polytechnic Institute and State University has been selected as a recipient of the 2018 Defense Security Service (DSS) Award for Excellence in Counterintelligence. DSS instituted this annual award to recognize cleared contractors who best demonstrate the ability to stop foreign theft of U.S. defense and national security technology.

I would be honored to present this award to you personally at a date, time, and venue of your choosing. Ms. April Moore, my executive assistant, will facilitate arrangements. She can be reached at (571) 305-6082 or april.m.moore25.civ@mail.mil.

Being selected is an extraordinary accomplishment. Please extend my congratulations to the dedicated women and men of Virginia Polytechnic Institute and State University for a job well done. Thank you for your leadership and continuing commitment and dedication to our nation's security.

Sincerely,



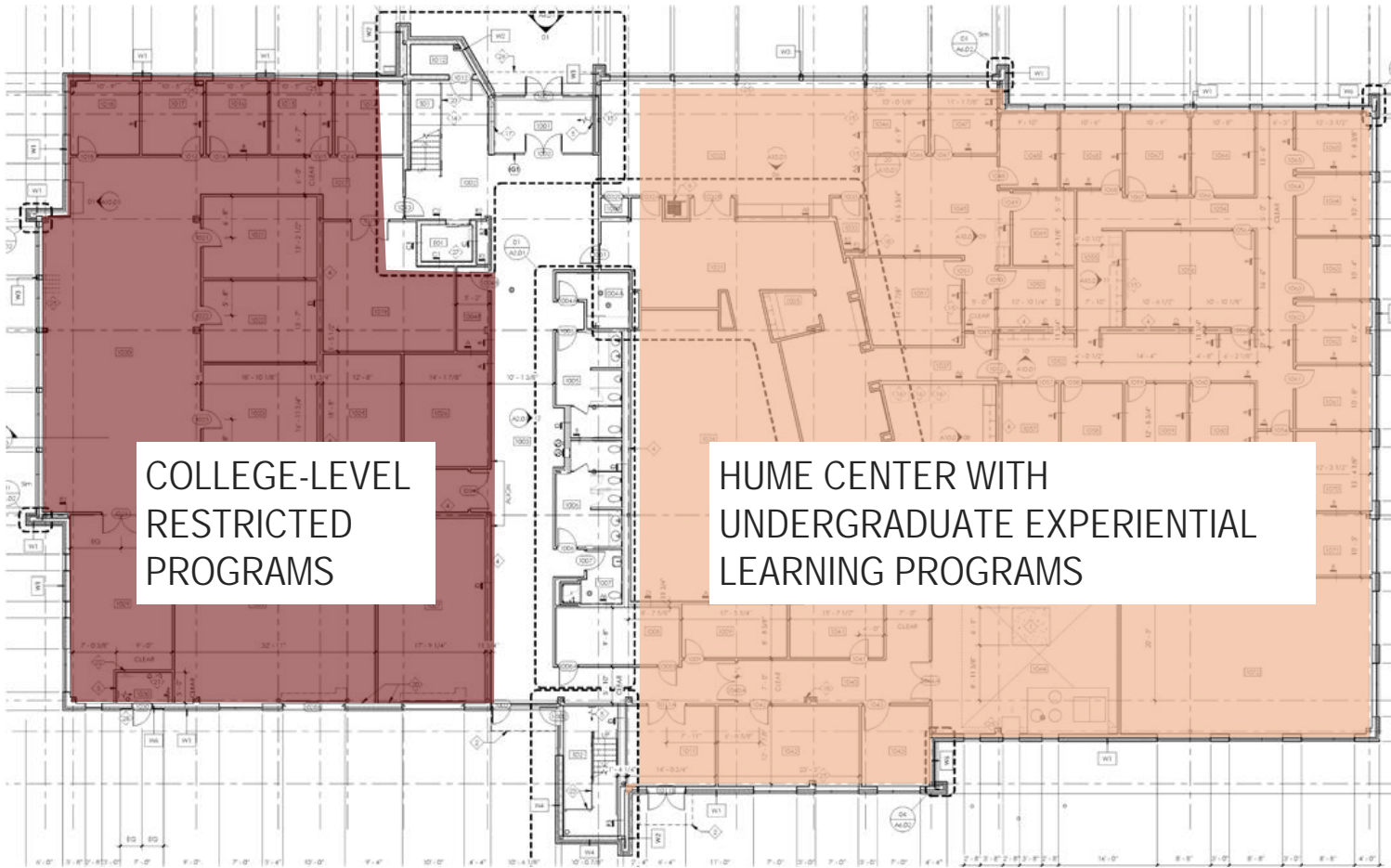
Daniel E. Payne
Director

Virginia Tech is being honored with a 2018 Defense Security Service (DSS) Award for Excellence in Counterintelligence.

This prestigious award recognizes organizations that best demonstrate the ability to stop foreign theft of US defense and national security technology.

Fewer than 1% of the eligible contractor facilities receive this award each year.

OPENED THE APPLIED RESEARCH BUILDING



First floor of 45,000 sq. ft.
building



INITIAL TEAMS:

- Export & Secure Research
- Hume Center for National Security and Technology
- VT-Applied Research Corp
- College of Engineering

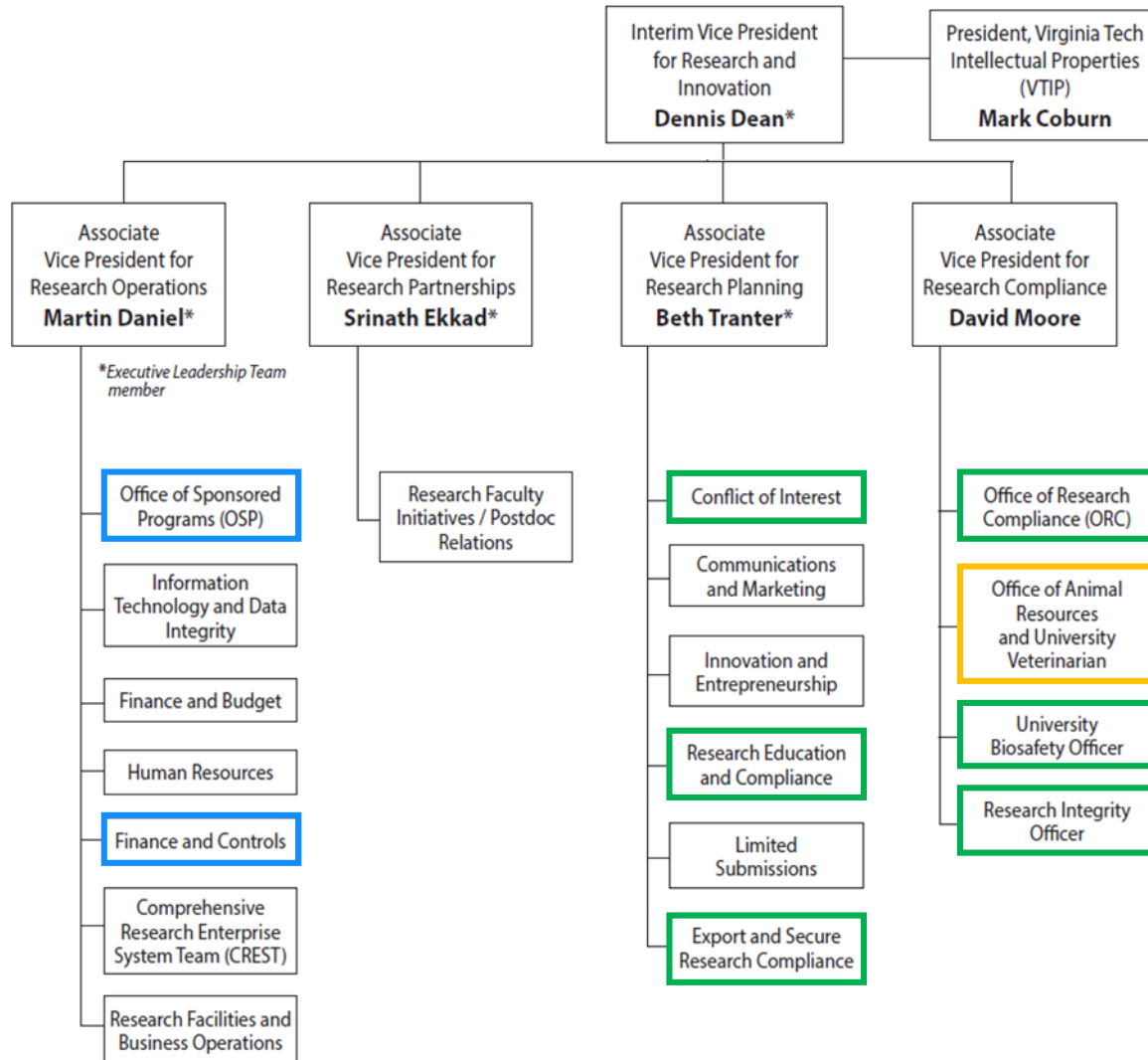
「 Research & Innovation: Research Compliance

COMPLIANCE, AUDIT, AND RISK COMMITTEE

JUNE 2, 2019

Office of the Vice President for Research and Innovation **OVPRI Central Administration**

ORGANIZATIONAL CHART - NOVEMBER 2015

**2016: OVPRI ORG STRUCTURE**

In 2017, Huron Consulting was retained to review the structure and make recommendations to support the future growth of the research enterprise. Key findings:

- Critical top-level functions lacked direct report to VPRI
- Integrity and compliance functions distributed across multiple AVP's with wide-ranging responsibilities
- Oversight of university veterinarian by AVP for compliance not aligned with best practice

2018: STRUCTURE ALIGNED WITH FUNCTION

STRATEGIC PROGRAMS	DISCOVERY TO MARKET	SPONSORED PROGRAMS	SCHOLARY INTEGRITY & RESEARCH COMPLIANCE	ANIMAL RESOURCES & ATTENDING VET
<ul style="list-style-type: none"> ▪ Proposal support, e.g., development, capabilities, partners, budget ▪ Federal & state program development ▪ Interdisciplinary programs and teaming ▪ Young investigator support 	<ul style="list-style-type: none"> ▪ Center for Advancing Industry Partnerships ▪ Center for Licensing and New Ventures ▪ Tech Transfer ▪ Proof-of-concept, Seed, and Venture funds 	<ul style="list-style-type: none"> ▪ Pre-award support ▪ Contract negotiation ▪ Post-award support ▪ Partner with units across campus and foundation ▪ Portfolio analysis ▪ Education and Training 	<ul style="list-style-type: none"> ▪ Research Integrity ▪ Conflict of Interest ▪ Human Research Protection ▪ Data Privacy and Security ▪ Animal Care and Use ▪ Biosafety ▪ Ethics Consultancy ▪ Education and training 	<ul style="list-style-type: none"> ▪ Well-being of animals used in research and instruction ▪ Laboratory animal facilities ▪ Veterinary clinical care ▪ Veterinary care oversight ▪ Research support services ▪ Education and training
COMMUNICATIONS & MARKETING	ELECTRONIC RESEARCH ADMINISTRATION	FINANCE & BUSINESS OPERATIONS	IT & DATA MANAGEMENT	HUMAN RESOURCES & TALENT DEVELOPMENT

Restructured OVPRI to support critical functions in research and innovation for future growth, and to better map onto university-level structure, e.g., HR, ERM, compliance. Realigned over \$1.5 million in OVPRI budget through alternative severance option, other transitions, and prioritizing initiatives.



Trudy Riley

Associate Vice President, Sponsored Programs

Executive Director, Office of Sponsored Programs,
Georgia Tech

Associate Deputy Provost, Research Administration and
Director of Sponsored Programs, University of Delaware

Experience overseeing all aspects of award negotiation
and administration, university-wide institutes, and shared-
user laboratories

BS in History and Political Science from Kutztown
University and MS in Public Administration from
University of Delaware



David Schabdach, DVM

Associate Vice President, Attending Veterinarian and Director Laboratory Animal Resources

Senior executive director and attending veterinarian of the Division of Laboratory Animal Resources and clinical professor of veterinary medicine.

Attending veterinarian for the University Laboratory and Animal Resources Department at Temple University.

Veterinarian at Bristol-Myers Squibb and Pfizer.

Member AAALAC Council on Accreditation and ad-hoc program reviewer

BS from University of Georgia, DVM from Virginia Tech, MS in Laboratory Animal Medicine from Penn State.



Lisa Lee, Ph.D.

Associate Vice President, Scholarly Integrity and Research Compliance

Inaugural Chief of Bioethics at Walter Reed Army Institute of Research.

Served as Executive Director of President Obama's Bioethics Commission.

For over 25 years, Lisa has worked in public health and ethics at the federal, state, and local levels.

She earned a PhD from Johns Hopkins University School of Public Health, and also holds an MA in educational psychology and an MS in bioethics.



STRATEGIC GROWTH

HS&T and Life Sciences

- Fralin Biomedical Research Institute and Roanoke Academic Medical Center
- College-level biomedical research
- Fralin Life Sciences Institute

Northern Virginia

- Innovation Campus
- National Security Initiative

Related Goals

- Industry partnerships and commercialization
- Research-related start-ups



RISK: RESEARCH COMPLIANCE

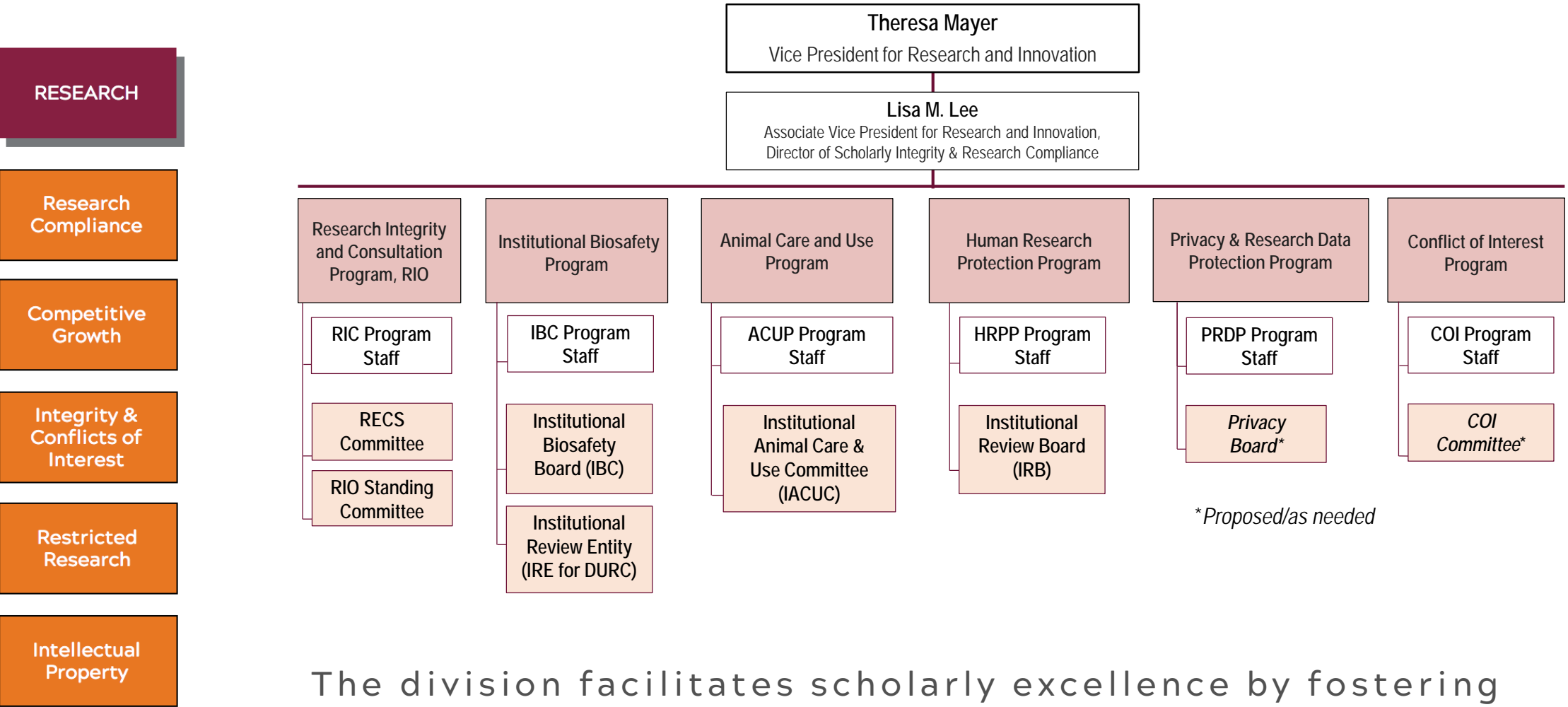
Approximately 50 regulations concerning the conduct of research

- Human research protections
- Privacy and data security
- Animal care and use
- Biosafety

RISK: INTEGRITY AND CONFLICT OF INTEREST

- Research integrity and consultation
- Conflict of interest

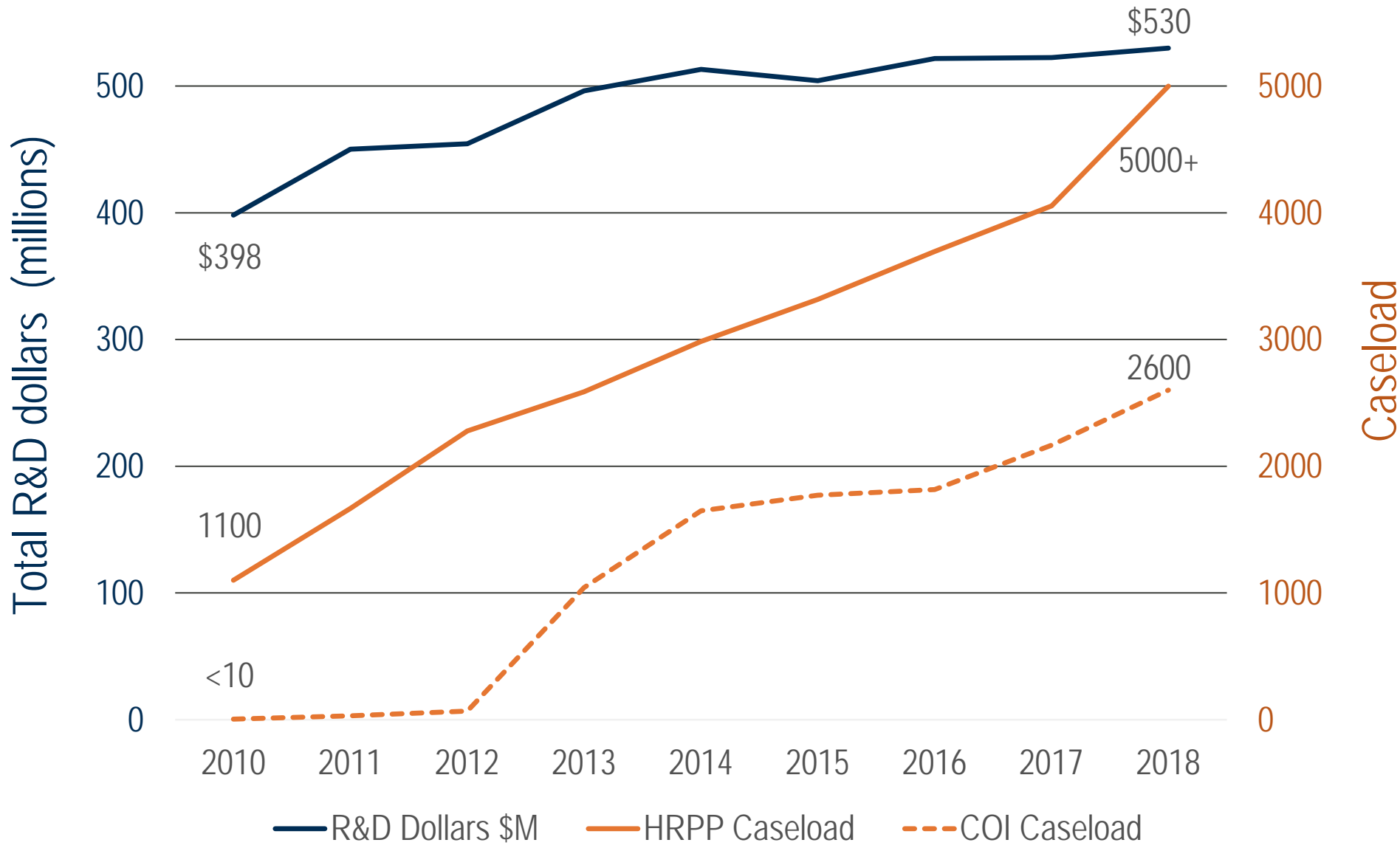
DIVISION OF SCHOLARLY INTEGRITY & RESEARCH COMPLIANCE



The division facilitates scholarly excellence by fostering ethical decision-making and ensuring research regulatory compliance

DRAMATIC GROWTH IN CASELOAD OVER THE LAST EIGHT YEARS

- RESEARCH
- Research Compliance
- Competitive Growth
- Integrity & Conflicts of Interest
- Restricted Research
- Intellectual Property



HUMAN RESEARCH PROTECTIONS PROGRAM

Institutional Review Board

Academic Peers

Median # **Members** 14
Median # **Alternates** 13

Virginia Tech

2018		2019	
# Members	6	# Members	6
VT faculty	3	VT faculty	7
Community	3	Community	3
# Alternates	1	# Alternates	1

PEER BENCHMARKING

Support structure

- Organizational structure and electronic systems to support regulatory requirements

Professional staff

- Number and qualifications

Board membership

- Members and alternates on peer boards

PROCEEDINGS OF THE IEEE

Intellectual Property and Universities: A Path Forward

By E. WILLIAM COWELL III
ON Semiconductor, Gresham, OR 97030 USA

JEFFREY H. REED
Virginia Tech, Blacksburg, VA 24061 USA



RISK: CONFLICT OF INTEREST

COI Program

- Evaluating program alignment with university priorities, e.g., start-ups
- Recruiting director for COI program
- Enhancing early engagement of Tech Transfer, General Counsel, etc.

“Lessening the focus on “conflict,” which can be construed as contentious, through increased focus on “alignment” would be a positive mindset change and a reflection that such entrepreneurial activities with university backing are positive activities for both the university and the company.

Higher Education

Duke settles research misconduct case, agrees to pay U.S. government \$112.5 million



Duke University campus. (iStock)

By **Susan Svrluga**

March 25

Duke University has agreed to pay \$112.5 million to the U.S. government to settle a lawsuit alleging that a research technician falsified data for several years to obtain federal grants, university officials announced Monday.

Attorneys for the whistleblower in the case called it the largest-ever recovery for research grant fraud challenged under the federal False Claims Act.

RISK: RESEARCH INTEGRITY

Research Integrity & Misconduct

- Implementing a pro-active approach to engage and educate the research community through Consultation Program
- Recruiting a Research Integrity Officer that will also support education and training activities

“Research integrity is the commitment – sometimes in the face of adversity – to the trustworthiness of the research process by the greater scientific community.”