

Committee Meeting Minutes

ACADEMIC AFFAIRS COMMITTEE

**Inn at Virginia Tech and Skelton Conference Center
Drillfield Conference Room**

November 7, 2016

Board Members Present

Tom Ryan, chair, Greta Harris, Debbie Petrine, Monty Abbas (faculty representative), Tara Reel (graduate student representative). Jim Chapman, rector.

Guests

Janice Austin, Rosemary Blieszner, Bob Broyden, Kris Bush, Steve Culver, Rami Dalloul, Jack Davis, Wanda Dean, Karen DePauw, Karen Eley Sanders, Azim Eskandarian, Tom Ewing, Jack Finney, Mike Friedlander, Rachel Gabriele, Guru Ghosh, Cathy Grimes, Kay Heidbreder, Amy Hogan, Rachel Holloway, Laszlo Horvath, Karen Hult, Anne Khademian, Paul Knox, Peggy Layne, Marlena Lester, Gary Long, Tim Luke, Karl Markgraf, Kevin McGuire, Christina McIntyre, Sally Morton, Rolf Mueller, Scott Nelson, Charlie Phlegar, Kim O'Rourke, Ellen Plummer, David Popham, Menah Pratt-Clarke, Thanassis Rikakis, Timothy Sands, Glenda Scales, Steve Schoenholtz, Liz Sharp, Ken Smith, Nate Smith, Elizabeth Spiller, Ann Stevens, Don Taylor, Judy Taylor, Tracy Vosburgh, Kristi Wilson, Paul Winistorfer, Lesley Yorke.

OPEN SESSION

- 1. Welcome.** Tom Ryan, chair of the Academic Affairs committee, welcomed committee members and guests.

The committee unanimously approved a change in the agenda to accommodate the need for presentations at the Finance and Audit committee meeting which occurs concurrently with the meeting of the Academic Affairs committee. The committee agreed to consider the resolutions to discontinue the Ph.D. and M.S. degrees in Hospitality and Tourism Management after the report of reappointments to endowed professorships.

- 2. Approval of Minutes.**

A motion passed unanimously to approve the minutes of the committee's August 29, 2016 meeting.

- 3. Report of Closed Session Action Items.** The Academic Affairs committee considered nine appointments to emeritus status, one appointment to endowed

professorships, faculty merit salary adjustments, and the ratification of the faculty personnel changes report.

All resolutions considered in the committee's Closed Session passed unanimously.

- 4. Provost's Update.** Thanassis Rikakis, executive vice president and provost, updated the committee on several topics.

Executive Searches. The search for the dean of the College of Engineering resulted in inviting three candidates to campus for interviews. The search is on schedule for completion by the end of the semester. The search for the dean of the College of Architecture and Urban Studies is underway. A search firm has been selected and a search committee has been appointed and charged.

Destination Areas Design Phase - Stage II. Destination Areas (DAs) and Strategic Growth Areas describe a university-wide effort to create transdisciplinary teams, tools, and processes that will make Virginia Tech a destination for talent, partnerships, transformative knowledge, innovative educational programs, and significant outcomes. Stage I of this effort is complete. Stage II begins in December 2016 and will take the effort through the May of 2018. Stage II will develop the management of the implementation of Destination Areas and Strategic Growth Areas. The on-going development of the vision for each area will be guided by a Stakeholder Committee comprised of members selected by faculty, institute directors, and administrators. Stakeholder Committees will participate in guiding the future of DA elements such as curriculum, research profile with key partners, and cluster hires. In addition, Stakeholder Committees will assist in the planning of facilities that are designed around themes and benefit from cross-university support. The Academic Affairs Committee encouraged the stakeholder committees to communicate progress on the DA areas. The committee encouraged robust communication about the effort and involvement with faculty members and stakeholders located at all university campus sites. The committee also encouraged monitoring faculty and stakeholder engagement and buy-in.

New Budget Model. The implementation of a new budget model has been extended by 18 months to allow additional participation in its development. The provost's office is gathering information and feedback from deans and department heads on how to improve and strengthen the university's budgeting processes. For the 2017-18 budget year, the new budget will be run as a "shadow" process to the current budget process to gauge the impact of the new budget on departments and colleges.

Early thoughts on budget planning for 2017-18. State budget fluctuations require flexibility and challenge the university to develop growth strategies that do not depend exclusively on state funds. The university's new budget model is predicated

on growth and requires strategic use of a diverse portfolio that includes a robust yield of students, a strong research portfolio, and philanthropy.

Virginia Agriculture and Natural Resources Consortium. Alan Grant, dean of the College of Agriculture and Life Sciences and Paul Winistorfer, dean of the College of Natural Resources and Environment are collaborating with statewide partners in academia, government, and industry to create a consortium dedicated to advancing scholarship and state budget fluctuations that impact Agency 229. Agency 229 is comprised of the Virginia Cooperative Extension and Virginia Agricultural Experiment Station. Stakeholders have begun and will continue discussions with public officials on supporting an amendment to establish the consortium.

Atlantic Coast Conference (ACC) Creativity and Innovation Festival. In addition to hosting athletic competitions, the ACC sponsors academic events and competitions for students at ACC institutions. In partnership with the Smithsonian Institution, Virginia Tech will host the inaugural ACC Creativity and Innovation Festival in Washington, D.C. on October 15-18, 2017. The festival will occur in conjunction with the annual meeting of the ACC provosts. Festival content will include many forms of creativity and innovation that includes poetry, music, robotics, media, agriculture, and other areas of entrepreneurship.

5. Faculty Affairs

a) **Report of Reappointments to Endowed Chairs, Professorships, or Fellowships.** Jack Finney, vice provost for faculty affairs, updated the committee on the reappointment of two faculty members to endowed professorships during the quarter ending September 30, 2016.

6. Academic Administration

a) **Resolution to Discontinue of Doctor of Philosophy in Hospitality and Tourism Management.** Wanda Dean, vice provost for enrollment and degree management, presented to the committee a resolution requesting the discontinuance of the doctor of philosophy degree in hospitality and tourism management.

The resolution passed unanimously.

b) **Resolution to Discontinue of Master of Science in Hospitality and Tourism Management.** Wanda Dean presented to the committee a resolution requesting the discontinuance of the master of science degree in hospitality and tourism management.

The resolution passed unanimously.

c) Pratt Fund Program and Expenditures Report.

The committee unanimously voted to accept the Pratt Fund Program and Expenditures report.

d) Update on Southern Association of Colleges and Schools Commission on Colleges. Ken Smith, vice provost for resource management and institutional effectiveness, updated the committee on the status of and future plans for the university's affirmation of accreditation.

7. Academic Affairs

a) Resolution for Instructional Site Authorization: Virginia Tech Research Center-Arlington. Karen DePauw, vice president and dean of graduate education, presented a resolution requesting that the Virginia Tech Research Center--Arlington be approved as an instructional site.

The committee unanimously passed the resolution for instructional site authorization.

b) Resolution to Approve Master of Arts degree in Nonprofit and Nongovernmental Organizational Management. Anne Khademian, professor and director of the School of Public and International Affairs presented a resolution requesting approval of a master of arts degree in nonprofit and nongovernmental organizational management.

The committee unanimously approved the resolution to approve an MA in Nonprofit and Nongovernmental Organizational Management.

c) Resolution to Approve Doctor of Philosophy degree in Security Governance. Scott Nelson, associate professor and director of graduate studies in the Department of Political Science presented a resolution requesting approval of a doctor of philosophy degree in security governance.

The committee unanimously approved the resolution to approve the PhD in Security Governance.

d) Update on Bachelor of Science in Microbiology. Ann Stevens and David Popham, professors of biological sciences, reported on the progress of the undergraduate B.S. degree in Microbiology approved by the board in 2014.

e) Update on Bachelor of Science in Water: Resources, Policy, and Management and Bachelor of Science in Packaging Systems. Stephen Schoenholtz, professor of biological sciences, will report on the progress of the undergraduate B.S. degree in Water: Resources, Policy, and Management approved by the board in 2014; Dr. Laszlo Horvath, report on

the progress of the undergraduate B.S. degree in Packaging Systems and Design approved by the board in 2013.

- f) **Virginia Tech / Shandong University Collaboration.** Guru Ghosh, vice president for outreach and international affairs, will provide an overview and update of the collaboration between Virginia Tech and Shandong University in Jinan, China.

8. Adjourn

SUMMARY

Reappointments to Endowed Chairs, Professorships, or Fellowships (2)

November 7, 2016

College of Agriculture and Life Sciences

Carl Griffey

W. G. Wysor Professor of Agriculture

College of Liberal Arts and Human Sciences

Anthony Kwame Harrison

Gloria D. Smith Professorship in Black Studies

ENDOWED PROFESSORSHIP
W. G. Wysor Professor of Agriculture

The W. G. Wysor Professorship was established by the Southern States Cooperative, Inc., in honor of Mr. W. G. Wysor, the founder of Southern States and its chief executive officer from 1923 to 1948. The principle criteria for selecting the Wysor Professor is the candidate's record of service and his or her future potential for significantly impacting the College of Agriculture and Life Sciences and positively influencing Virginia agriculture.

In concurrence with recommendations of the college honorifics committee and department head Dr. Thomas Thompson, Dean Alan Grant nominates Dr. Carl Griffey for reappointment to the W. G. Wysor Professorship.

Dr. Griffey is a professor in the Department of Crop and Soil Environmental Sciences. He joined the department as an assistant professor in 1989; was promoted to associate professor in 1995; and to full professor in 2002. Dr. Griffey has earned the distinction of being the premier small grains breeder in the eastern United States. He directs one of a handful of superior breeding programs in the nation. In the past 27 years, Dr. Griffey has developed and released dozens of barley and wheat varieties, which are grown in numerous states. Since 2011, Dr. Griffey has brought more than \$2.7M in sponsored research funding and over \$3.4M in royalties to Virginia Tech.

Dr. Griffey has been honored by the U.S. Department of Agriculture's Agricultural Research Service, the Governor of Virginia, the Virginia Agribusiness Council, and the Virginia Small Grains Association. In 2012, he was named a Fellow of the Crop Science Society of America, the highest award bestowed by that organization.

Dr. Griffey has served as major professor for 24 graduate students, including 14 Ph.D. students. He enthusiastically serves on numerous other student committees. Dr. Griffey teaches the upper undergraduate-level plant genetics and breeding course and the graduate-level advanced plant genetics and breeding course and consistently receives outstanding teaching evaluation scores from his students.

REAPPOINTMENT:

The president and executive vice president and provost have confirmed the reappointment of Dr. Carl Griffey to the W. G. Wysor Professorship, for a five-year period effective November 10, 2016, with a salary supplement as provided by the endowment and, if available, with funds from the eminent scholar match program.

November 7, 2016

ENDOWED PROFESSORSHIP
Gloria D. Smith Professorship in Black Studies

The Gloria D. Smith Memorial Professorship in Black Studies was established in 1997 as a memorial to Gloria D. Smith who was an assistant professor in the university's student counseling services (now Cook Counseling Center) who advocated for minority students. Created in partnership between the university and the (then) athletic association, the professorship is awarded to an outstanding faculty member who contributes significantly to the development of minority students, student athletes, and scholarly pursuits. The honoree must teach in the Africana Studies Program in the College of Liberal Arts and Human Sciences and can be nominated from any college. The honoree oversees a speaker series and makes at least one university-wide presentation during their appointment. The Gloria D. Smith nomination committee and Dean Elizabeth Spiller nominate Dr. Anthony "Kwame" Harrison for a renewal of his appointment as the Gloria D. Smith Professor of Black Studies.

Since coming to the university as a visiting assistant professor in 2003, Dr. Harrison has worked tirelessly on behalf of Africana studies. His involvement in faculty searches, as a key figure on the program's executive committee, his efforts at recruiting graduate students, his mentoring of graduate and undergraduate students, and his involvement in the initiation and support of program activities make him an invaluable resource to students and colleagues. His scholarship and reputation in popular music studies and ethnography bring considerable visibility to the program, the college, and the university. He is an award-winning teacher, inspiring students to exceed their own expectations for learning, intellectual development, and personal growth. The opportunity to continue serving as the Smith Professor will only enhance his capacities as a program leader, scholar, and teacher.

During his initial term as the Gloria Smith professor, Dr. Harrison organized a number of noteworthy programs, ranging in topics from popular music to workers' rights to black women's issues and sexuality, presenting the campus and community with opportunities to explore the breadth of Black experience in Africa and the United States. Each of these events made a key contribution to the visibility and viability of the Africana Studies Program. Colleagues believe that he is eminently deserving of the recognition embodied in the Smith Professorship, and that he will continue to use the associated resources to further his own career as well as to further the interests and welfare of the Africana Studies Program, the Department of Sociology, the college, and the university.

REAPPOINTMENT:

The president and executive vice president and provost have confirmed the reappointment of Dr. Anthony Kwame Harrison to the Gloria D. Smith Professor of Black Studies for two years effective August 10, 2016 with an annual stipend as provided by the endowment and, if available, with funds from the eminent scholars match program.

November 7, 2016



Update on Southern Association of Colleges and Schools Commission on Colleges (SACSCOC)

Ken Smith, Vice Provost for Resource Management and Institutional Effectiveness
Board of Visitors | November 7, 2016

\$367 million

What is SACSCOC?

- **Regional accrediting agency recognized by the US Department of Education**
- **A self-governance body led by institutional presidents**
- **Comprehensive 10 year peer reviews of compliance with standards of accreditation and 5 year interim reviews of on-going compliance**
- **This accreditation encompasses the entire institution including all academic programs, other instructional sites, online programs, & distance learning programs**
- **Also must approve new sites and significant changes in mission and programs**

Current Status

- Our accreditation was last reaffirmed in 2010
- Our Fifth-Year Interim Report was conducted in 2015
 - The report was accepted in July of 2015 with follow-up requested in two areas: Learning Outcomes Assessment and Credit Hour Definition
 - A report was submitted in March 2016 addressing the open questions and accepted as complete in July 2016
- VT and VTCSOM leadership met with the SACSCOC President in July of 2016 to discuss integration
- SACSCOC has approved a two-year extension on our regular reaffirmation of accreditation (2019 ► 2021) to allow for full integration the School of Medicine

Substantive Change

- Integrating the VTCSOM is a Substantive Change
 - Substantive Change = a significant modification or expansion of the nature and scope of an institution
- Substantive Change Requirements
 - Prepare a Substantive Change Prospectus - March 2018
 - Obtain approval of Prospectus by SACSCOC – June 2018
 - Prepare a Post-Integration Compliance Certificate Submission – Summer or Fall 2018
 - Host an on-site visit - Fall 2018 or Spring 2019
 - Receive final SACSCOC Action - December 2018 or June 2019
- Substantive change content must be coordinated with other approvals including LCME, ED, and SCHEV

Reaffirmation

- **Reaffirmation Timeline**
 - Orientation for Reaffirmation - December 2018
 - Compliance Certificate Submission - September 2020
 - On-site visit - Spring 2021
 - Commission Action - December 2021
- **New Quality Enhancement Plan (QEP)**
 - Focused course of action addressing a specific topic to enhance student learning
- **SACSCOC is conducting a comprehensive review of standards**
 - Integration of VTCSOM will be under current standards
 - Next reaffirmation will likely be under revised standards
 - Virginia Tech is one of many institutions advocating for more differential and risk based approaches to demonstrating effectiveness

SACSCOC Preparations Staffing

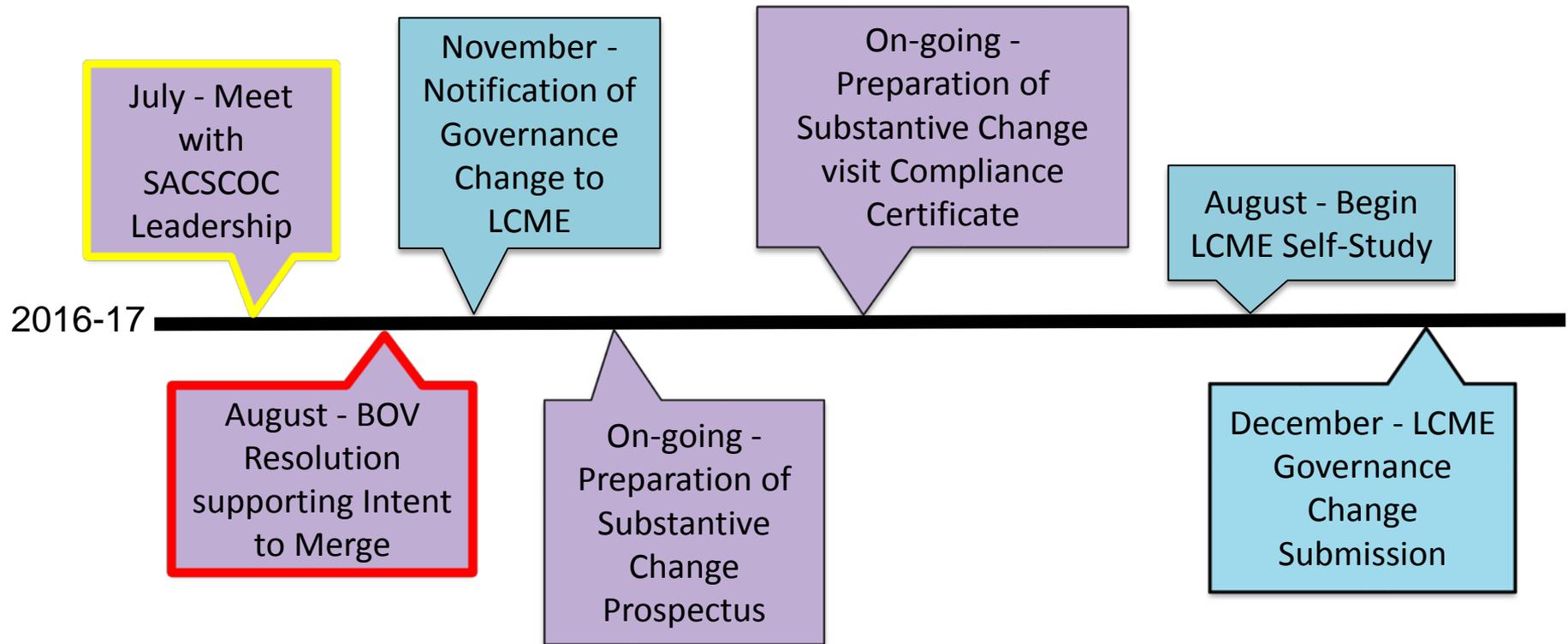
Leadership Team	Reaffirmation Steering Committee
<p>Tim Sands, President</p> <p>Thanassis Rikakis, EVP and Provost</p> <p>Dwight Shelton, VP Finance and CFO</p> <p>Ken Smith, Vice Provost and Accreditation Liaison</p>	<p>Chair – Senior Faculty Member President's Chief of Staff Vice Provost of UG Academic Affairs Vice President & Dean for Graduate Education Vice President for Student Affairs Executive Director of Technology-enhanced Learning & Online Strategies (TLOS) Assistant Vice President for Finance and University Controller Associate Vice President & Chief Facilities Officer University Registrar Associate Provost for Institutional Effectiveness Assistant Provost for Regional Accreditation Representative from Council of College Deans President of Faculty Senate President of Staff Senate Graduate Representative to the BOV Undergraduate Representative to the BOV</p>
Key Staff <p>Steve Culver, Associate Provost for Institutional Effectiveness</p> <p>Kris Bush, Assistant Provost for Regional Accreditation</p> <p>Beth Pline - Project Manager VTCSOM Transition</p> <p>Barbara Walsh – VT/VTCSOM Integration Consultant</p>	

Questions/Discussion

Thank you

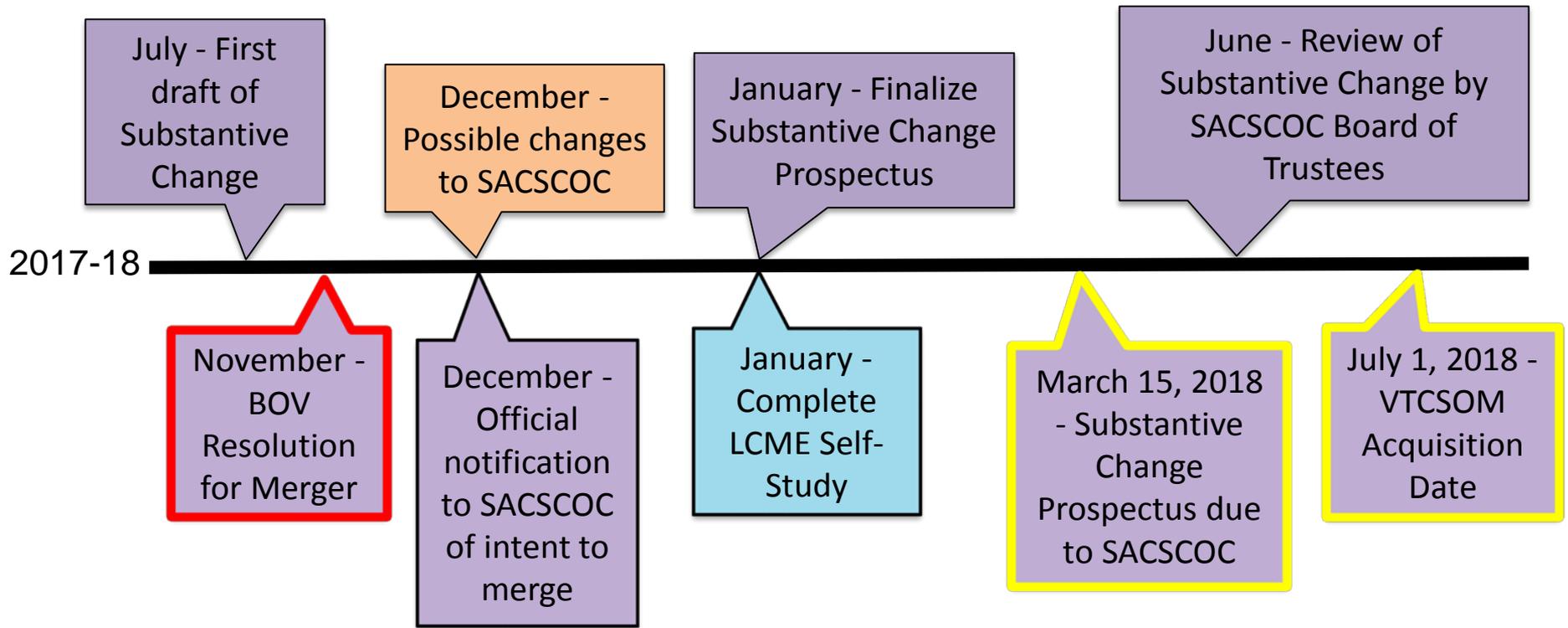
Combined Timeline of Actions – SACSCOC & LCME

SACSCOC - Acquisition	LCME Governance Change	SACSCOC - Reaffirmation	Red highlight - BOV milestone Yellow highlight - SACSCOC milestone
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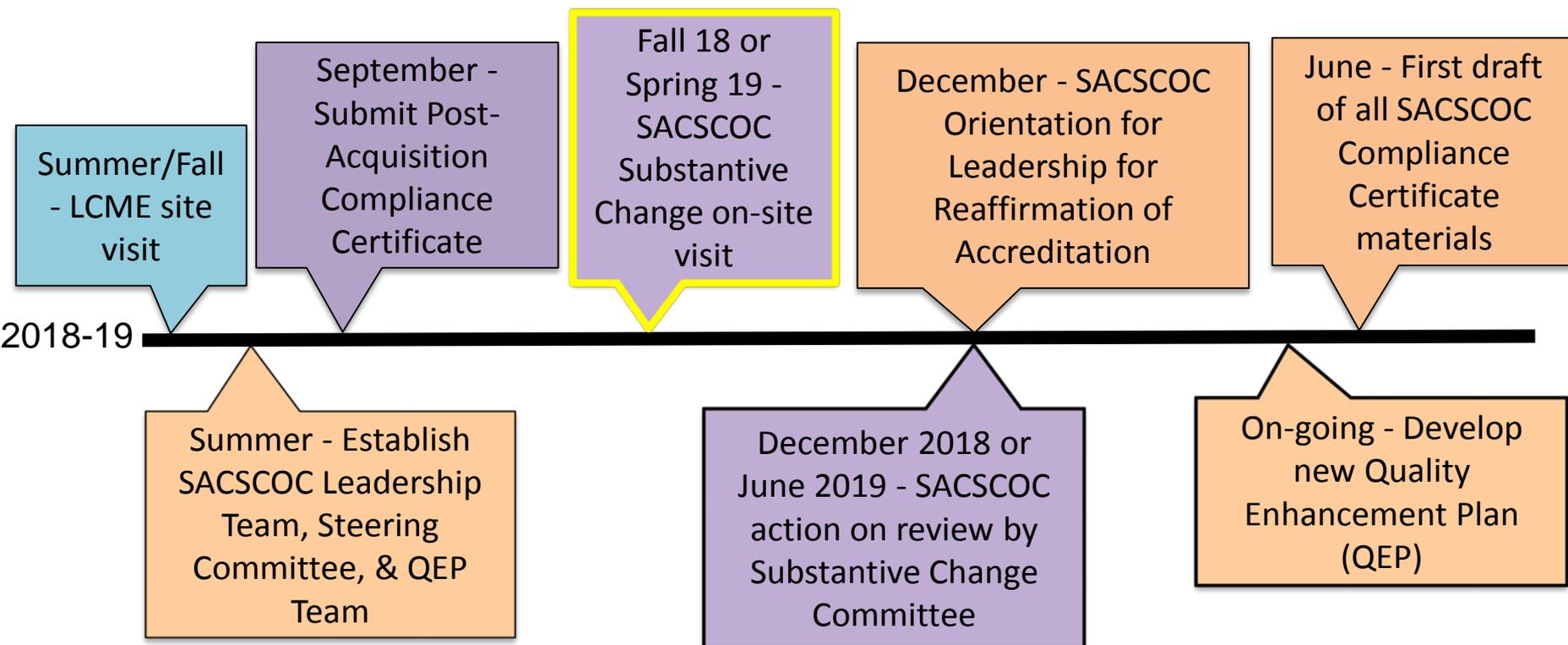
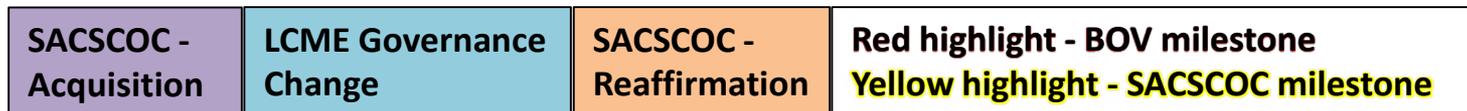


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Summer - Final editing & compilation of SACSCOC Compliance Certificate

November - SACSCOC off-site review & receive Focused Report request

August 2021 - Implement QEP

December 2021 - Action by SACSCOC Board of Trustees on Reaffirmation

2020-21

May - Draft SACSCOC Reaffirmation of Accreditation Compliance Certificate materials

September - Compliance Certificate submission due to SACSCOC

Spring 2021 - SACSCOC on-site review & approval of QEP

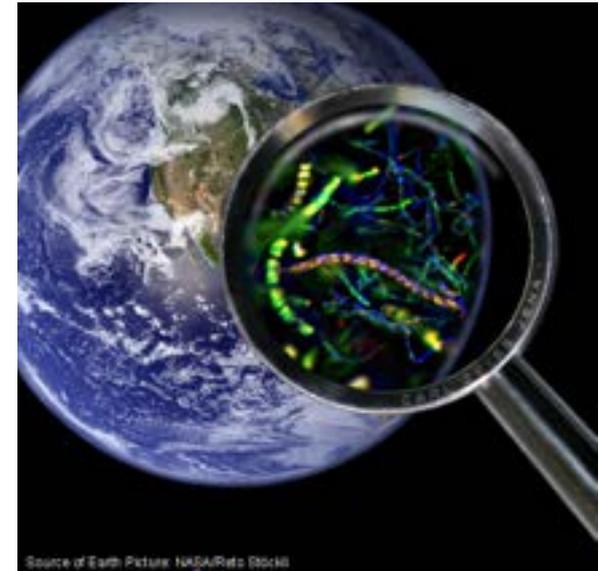
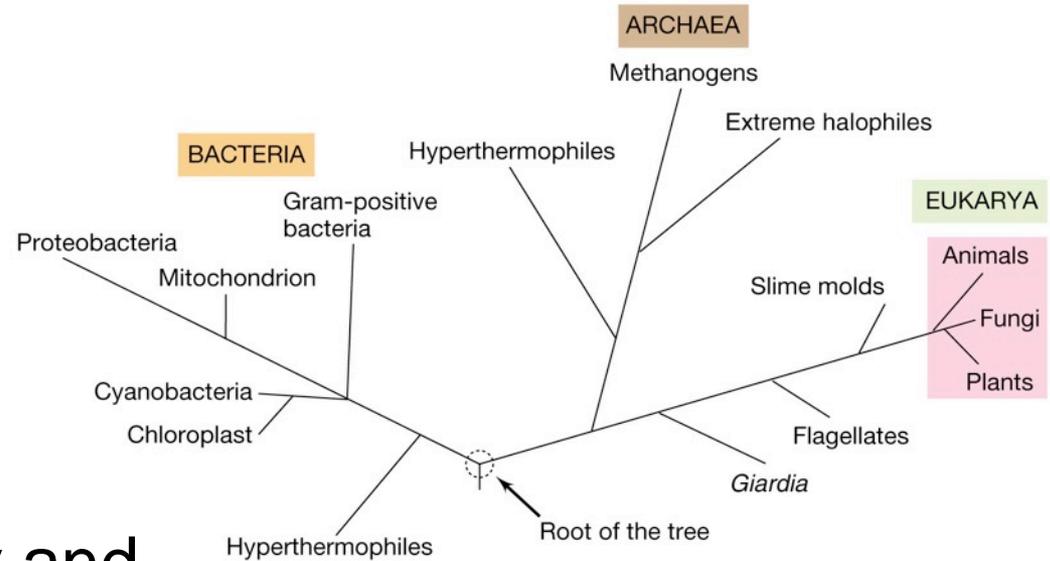
Update on Bachelor of Science in Microbiology in the Dept. of Biological Sciences



Dr. Ann M. Stevens
Dr. David L. Popham
BOV Meeting 11/07/16

Why is studying microbes important?

- Most numerous and diverse organisms on the planet
- Global sustainability and environmental conservation



Public health and safety - Emerging diseases -



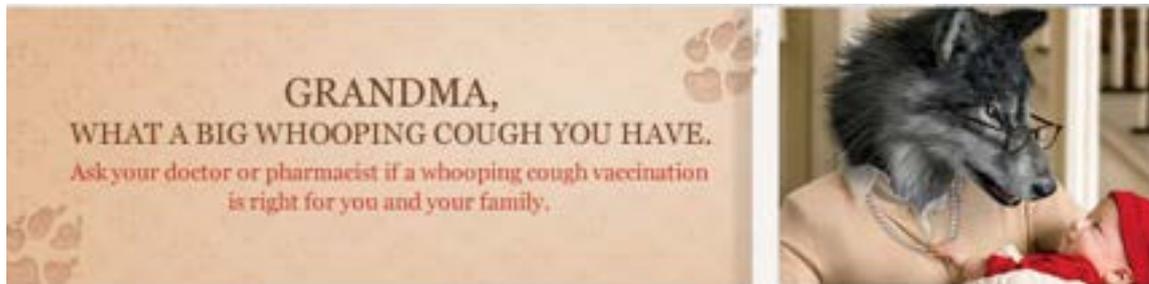
HIGH-LEVEL MEETING ON ANTIMICROBIAL RESISTANCE



21 SEPTEMBER 2016, UN HEADQUARTERS, NEW YORK



Ebola



WARNING

Zika Virus Disease

Southern Mexico, areas of Central and South America, and the Caribbean have mosquitoes that can cause Zika virus disease. If you're pregnant or plan to get pregnant, your baby can be born with birth defects if you get infected with Zika.



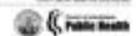
Traveling South of the United States

- Use Environmental Protection Agency (EPA) approved bug spray when outside.
- Wear long sleeve shirts and pants to avoid mosquito bites.
- Stay or sleep in screened-in or air conditioned rooms.

Returning to the United States

- Check for signs of illness 14 days after you travel.
- If you have fever, rash, joint or muscle pain, call your doctor and talk about your travel.
- If you're pregnant, call your doctor and talk about your travel, even if you don't have symptoms.

U.S. Health Advisory: Department of Public Health
This Chart is for informational purposes only.

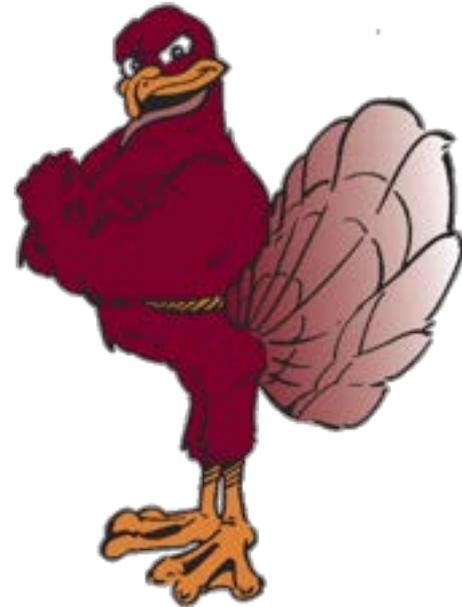


Food-borne Illness

Microbiology at VT

NEW Microbiology Major / B.S. Degree
began in Spring 2015
(conversion of Microbiology Option)

- Cross-Campus Initiative
- Curriculum
- Career Paths
- Student Interest
- Broader Impacts



Microbiology Degree - A Cross-Campus Initiative

Biological Sciences
12 faculty & instructors
teaching core and
elective classes

CALS
6 faculty
teaching core and
elective classes

Microbiology

Vet Med
1 faculty
teaching elective
class

Across campus
~40 faculty involved
in undergraduate
research

Microbiology Degree - Curriculum

Core Classes (Required)

General Microbiology and Lab
Biochemistry for Biotechnology
Microbial Genetics
Microbial Physiology
Senior Seminar

Biomedical Electives

Immunology and Lab
Pathogenic Bacteriology and Lab

Molecular Electives

Molecular Biology & Cell/Molecular Biology Lab
Molecular Microbial Physiology and Genetics Lab

General Electives

Bioinformatics with lab
Environmental Microbiology with lab
Epidemiology of Foodborne Disease
Food Microbiology with lab
Inflammation Biology
Introductory Parasitology with lab
Microbial Forensics & Biosecurity
Virology

Undergraduate Research



Microbiology Degree - Career Paths

- A laboratory-intensive course curriculum designed to prepare students for:
 - Careers in Biotech industry
 - Lab Associate, TechLab, Blacksburg, VA
 - Microbiologist, American Biosystems, Roanoke, VA
 - Clinical Operations Assistant, Sucampo Pharmaceuticals, Annapolis, MD
 - Intern, First Nations Community HealthSource, Albuquerque, NM
 - Health Physics Technician, Dominion nuclear power plant in Surry, VA
 - CNA, Comfort Keepers, Manassas, VA
 - Lab Technician, VT FS&T
 - Graduate school in Micro/Immuno
 - Indiana University
 - Ohio University
 - UC-Davis
 - UCONN
 - VCU
 - Virginia Tech
 - Biological Sciences
 - Food Science & Technology
 - TBMH



Microbiology Degree - Career Paths

- Biomedical careers
 - Med/Dental/Vet
 - VT-Carilion School of Medicine
 - VA-MD CVM
 - Pharmacy
 - VCU
 - Masters of Public Health/Epidemiology
 - George Washington University
 - University of Pittsburgh
 - Clinical laboratory science
 - Jefferson College of Health Sciences
 - Quinnipiac University
 - Sentara RMH School
 - U.S. Army School of clinical lab sciences



Microbiology Degree – Student Interest



Growing student demand:

- 13 students in first graduating class May 2015
- 31 students in second graduating class May 2016
- 42 students in Senior Seminar Class Fall 2016
- 117* students in MICB degree program Fall 2016

(*SCHEV goal was 120 students by 2019-2020)

Microbiology Degree - Broader Impacts

Ut Prosim - The Microbiology Club of VT

Educational community outreach to local schools...

Hands on activities at science fairs...

Career information...

Peer advising...and more!



Microbiology Degree - Broader Impacts

Cost: -None; Conversion of pre-existing option to a new degree

-One retirement replacement hire



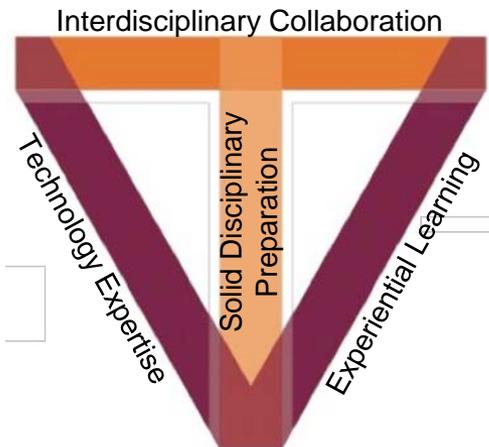
Caroline Jones

-Future resources will be needed to maintain and grow program

Impact: -The only B.S. Microbiology major/degree in VA



Destination areas: Adaptive Brain and Behavior
Data Analytics and Decision Sciences
Global Systems Science
Integrated Security
Intelligent Infrastructure for Human Centered Communities



Questions?





Update: B.S. Degree Water: Resources, Policy, and Management

Presented by: Stephen Schoenholtz
Professor and Director
Virginia Water Resources Research Center
College of Natural Resources and Environment
Board of Visitors, Academic Affairs Committee
November 7, 2016

Cross-Campus Collaboration

Five colleges and ten departments collaborated to develop the water degree:

- **College of Agriculture & Life Sciences** (Agricultural & Applied Economics, Biological Systems Engineering, Crop & Soil Environmental Sciences)
- **College of Architecture & Urban Studies** (Urban Affairs & Planning)
- **College of Engineering** (Civil & Environmental Engineering)
- **College of Natural Resources & Environment** (Fish & Wildlife Conservation, Forest Resources & Environmental Conservation, Geography)
- **College of Science** (Biological Sciences, Geosciences)

Degree Requirements

Comprehensive, interdisciplinary curriculum
(120 credits)

- Maximum 36 credits – Curriculum for Liberal Education
- 57 credits core courses
 - 18 credits – common water core
 - 12 credits – water science
 - 12 credits – water policy
 - 9 credits – water law, planning, economics
 - 6 credits – writing, geospatial technology
- Minimum 18 credits – restricted electives in water-related courses
- Minimum 9 credits – university electives



Core Courses – 18 credits

- Intro to Water Resources & Environmental Issues
- General Physics & Lab
- Principles of Watershed Hydrology
- Fundamentals of Environmental Science
- Water Quality
- Watershed Assessment, Management, Policy



Areas of Water Science Specialization

- Aquatic Ecosystems
- Hydrology
- Water Quality
- Water Treatment and Public Health



Areas of Water Policy Specialization

- Watershed Management
- International Water Management
- Water Policy, Planning, Economics
- Water, Climate, Energy, & Global Issues

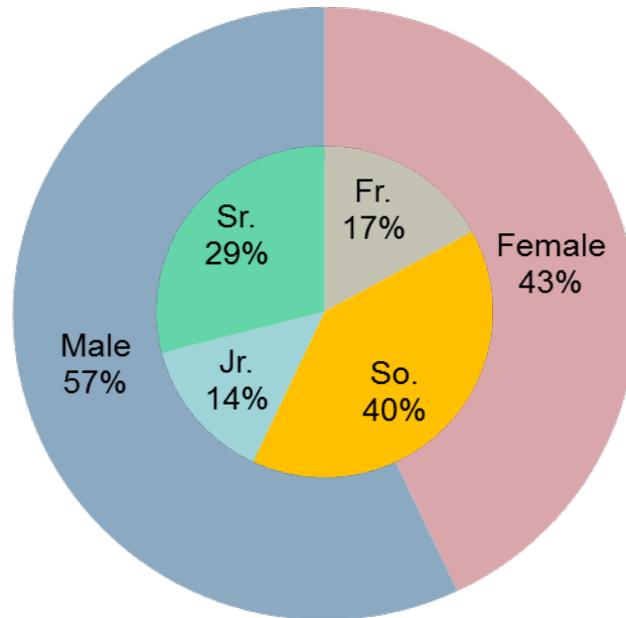


Early Success - Water-Cluster Faculty Hired in Four Departments

1. Water Policy & Economics (FREC)
2. Ecohydrology (FREC)
3. Human Ecology of Water (GEOG)
4. Critical-Zone Physics (CSES)
5. Landscape Ecosystem Services (CSES)
6. Earth Systems Modeling (BSE)
7. Watershed Modeling (BSE)

Early Success - Students

- Projected: 80 majors by 2019-2020
- First students enroll Fall 2015
- Current: 40 majors



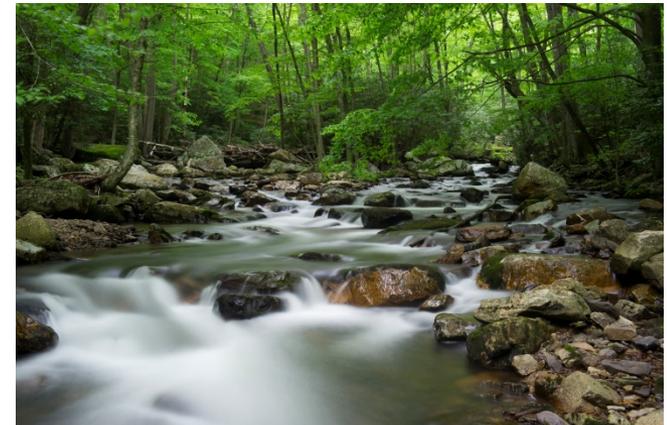
Early Success - Philanthropy

- \$480,000 endowment
- 2 sustainable water scholarships
- 2-5 sustainable water research fellowships
 - 2015-2016 fellow – Flint Research Team

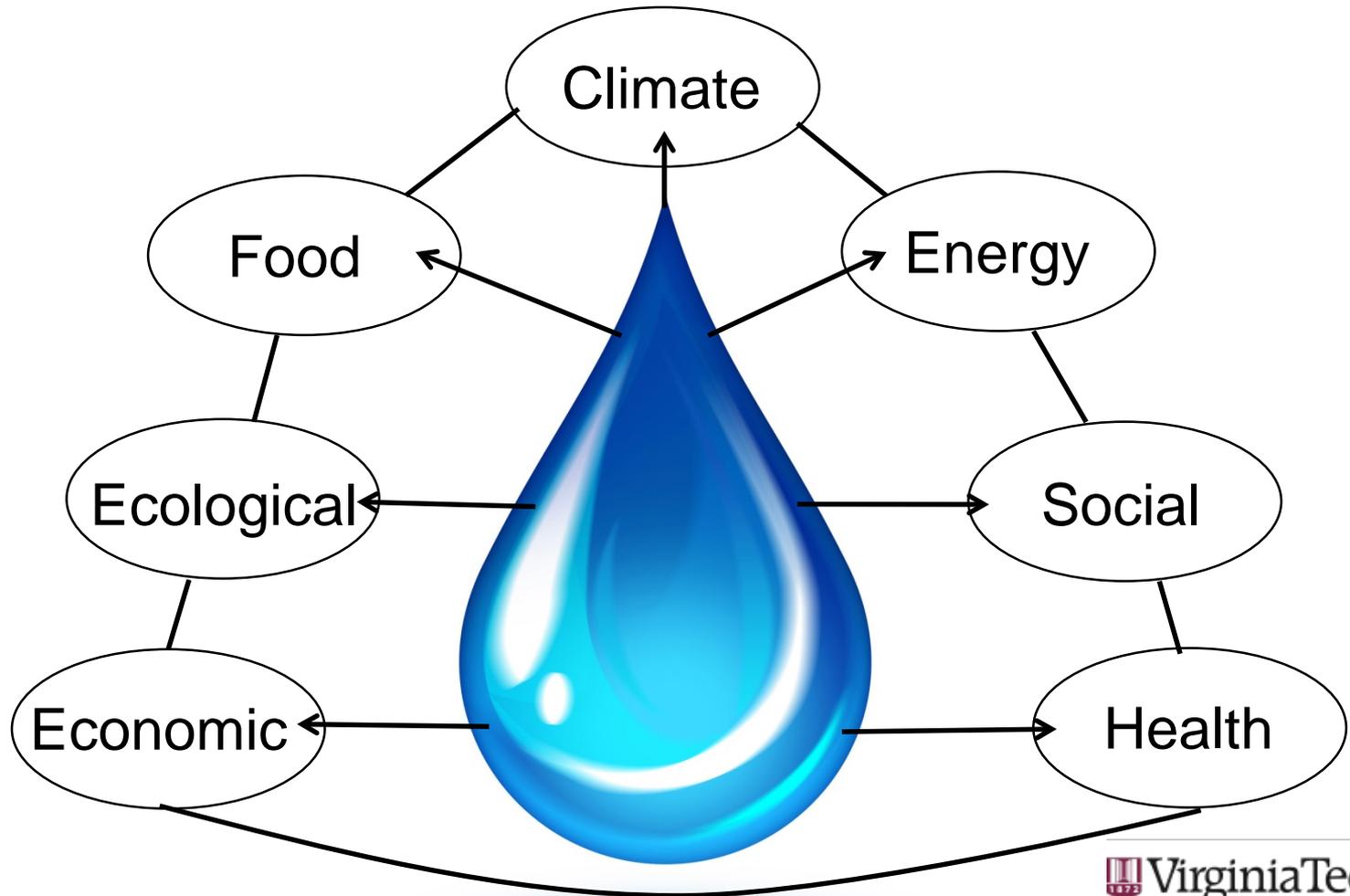


Early Success - Recognition

- Invited to White House Water Summit
- Featured on website of Universities Council on Water Resources (UCOWR)
- Invited presentations
 - UCOWR Annual Meeting
 - University of Arizona
 - Auburn University
 - University of Delaware
 - Michigan Technological University
 - University of Auckland, University of Waikato, Massey University (NZ)

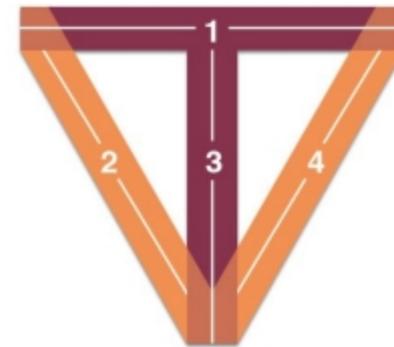


Water: Integrated with Complex Systems – Complex Challenges/Opportunities



A Bright Future

- Preparing VT-shaped students to solve complex water challenges
 1. Interdisciplinary knowledge & technological literacy
 2. Communal learning
 3. Disciplinary depth
 4. Experiential learning



- Aligns with *Beyond Boundaries* and *Destination Areas* - providing next-generation curriculum & career opportunities

One of a kind

The Water Degree @ VT

stephen.schoenholtz@vt.edu

ADVANCING THE SCIENCE OF SUSTAINABILITY

Water: Resources, Policy, and Management

A New Degree offered by the
Department of Forest Resources and
Environmental Conservation



To prepare students for diverse
careers in water resources

waterdegree.frec.vt.edu

B.S. Packaging Systems and Design

*Department of Sustainable Biomaterials
College of Natural Resources and Environment*

Dr. Laszlo Horvath
Director, Center for Packaging and Unit Load Design
Assistant Professor

1650 Research Center Dr.
Blacksburg, VA 24061
Phone: (540) 231-7107, Fax: (540) 231-8868
Email: unitload@vt.edu

www.packaging.sbio.vt.edu

Packaging Field

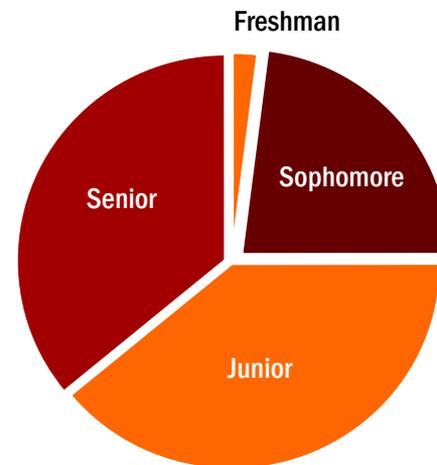
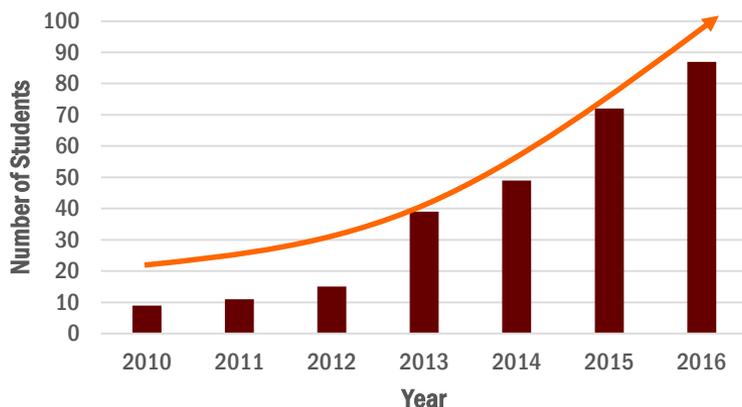
- Global packaging industry projected to grow to **\$1 trillion by 2018.**
- E-commerce projected to grow to \$684 billion by 2020.
- Sustainable Packaging Market projected to grow to \$440 billion by 2025.



History

- **2004 - Packaging Science option under B.S. in Wood Science and Forest Products**
- **2010 – Two new packaging faculty members hired**
- **2012 – Department of Sustainable Biomaterials**
- **2015 Spring – B.S. in Packaging Systems and Design**

Undergraduate Student Enrollment



Female: 48%, Male: 52%

Core Packaging Faculty



Dr. Laszlo Horvath
Director of Center for Packaging
and Unit Load Design
Assistant Professor

*Packaging Engineering and Pallet and
Unit Load Design*



Dr. Young Teck Kim
Assistant Professor

*Bio-Based Packaging Materials
Development*

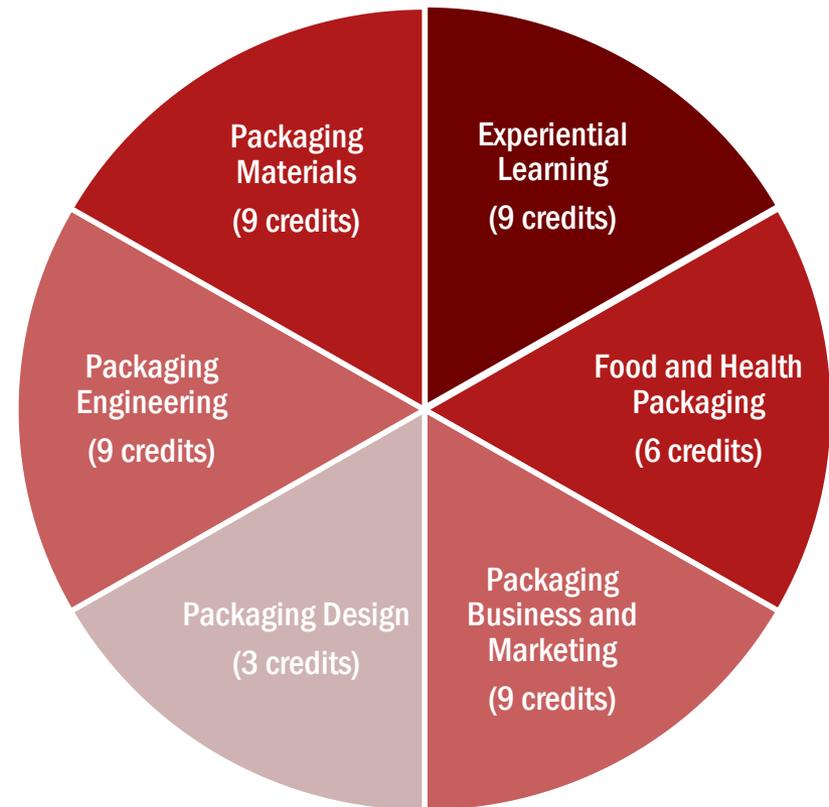


Dr. Robert Bush
Professor

*Market Analysis and Business
Development*

Core Curriculum

- **Balanced mix of engineering, design, business and science**
- **Highly focused on experiential learning**
- **30 credits of free electives allow students to pursue a specialization**
 - Supply chain
 - Food science
 - Management and leadership
 - Industrial design



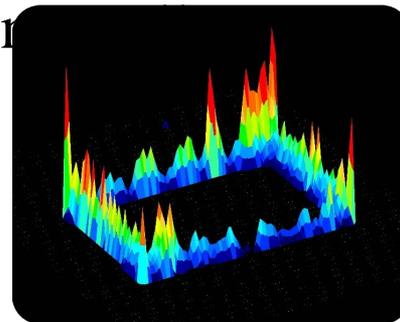
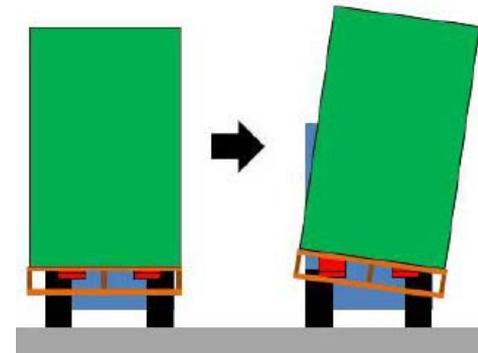
Experiential Learning

- Sustainable Packaging Designer Trainee program
- Undergraduate Research Experience
- Senior design classes
- Semester long industry projects



Industry Projects

1. Evaluation of the feasibility of individual unit load insulation for international transport.
2. Evaluation of the effect of pallet bottom deckboard on the stability of high aspect ratio unit loads.
3. Evaluation of the pressure distribution under corrugated cardboard on a pallet.



Industry Support

- **\$250,000+** annual support through contract testing projects (**60-80 projects**)
- **\$350,000+** annual support for graduate and undergraduate research
- **\$1.3 million** annual donations for packaging design software
- **\$200,000+** equipment donations since 2010
- **Internship and Co-ops**
- **Senior design projects**

Employment

- **Undergraduate**
 - Employment rate: **98%**
 - Salary range: **\$50,000-\$75,000**
 - Companies: Exxon Mobil, Westrock, Newell Rubbermaid, PCA, Rehrig Pacific, Northrop, etc.
 - Job offers often received 1 year prior graduation
- **Graduate**
 - Employment rate: **100%**
 - Starting salary: **\$90,000+**
 - Companies: Amazon, Samsung, Whitewave (Horizon milk), Newell Rubbermaid, etc.

Support form the College and the Department

- Two tenure track positions
- Equipment upgrades
- New testing equipment
- Travel support for the students



Future

- Target enrollment is **150** by 2020
- Expanding the number of experiential learning projects
- Growth challenges with laboratory space and personnel



THANK YOU

Virginia Tech and Shandong University: A Unique Opportunity

Guru Ghosh, Ph.D. VP Outreach and International Affairs

Don Taylor, Ph.D. Interim Dean, College of Engineering

Rolf Mueller, Ph. D. Associate Professor, Mechanical Engineering

Board of Visitors, Academic Affairs Committee

November 7, 2016

Shandong Opportunity & Virginia Tech's International Vision



Substantial contribution to
Beyond Boundaries goals:

1. Supports the president's goal of advancing as an internationally-recognized, global land-grant institution that aspires to be a global top 100 university
 -
2. Provides Virginia Tech students with distinctive international opportunities
3. Uses a networked and nimble approach to grow the university's international presence

Shandong Offer & Advantages to Virginia Tech

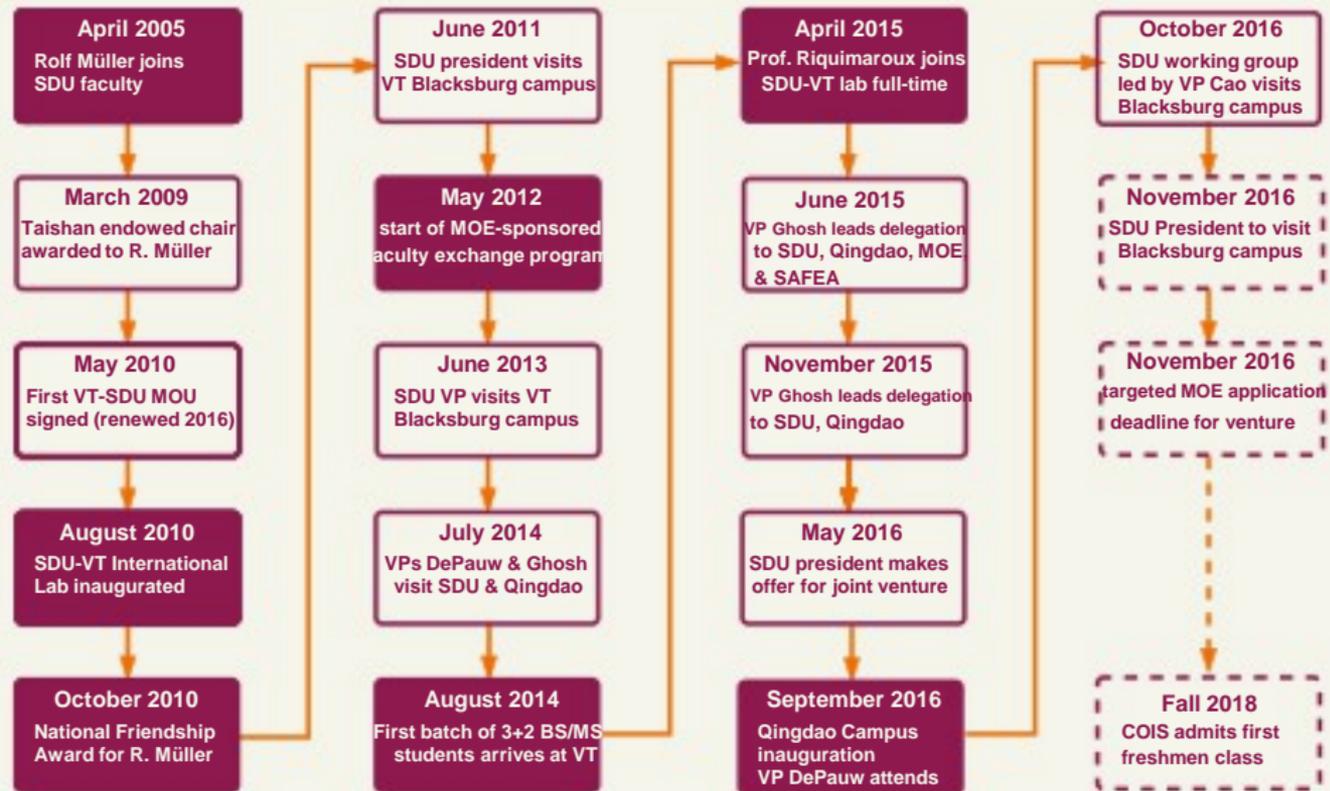
Shandong University Offer

- establish joint College of Interdisciplinary Studies (COIS)
- ~\$27M start-up (incl. tuition guarantee)
- no VT funds to flow to Shandong
- 124,000 sqft of space (~ 80% of Goodwin Hall)
- 35 faculty, 25 staff positions
- ~ 600 students in COIS
- research, education, economic development

Advantages to Virginia Tech

- pipelines for excellent graduate students:
 - SDU BS → VT MS (→ PhD)
 - SDU MS → VT PhD
 - “3+2” BS/MS program:
 - SDU BS degree earned in China
 - VT MS degree earned in VA
 - possible expansion to “3+1” dual BS in the future
- study abroad & internships preparing VT students for global workforce
- research collaborations
- economic development & industry partnerships

Milestones



Virginia Tech Student & Faculty Engagement



Visits since 2010:

- students: 62
(32 ug, 30 grad)
- faculty: 78
(research: 40, meetings: 38)

Current faculty interest:

ECE: 9, ME: 15, AOE: 3,
BEAM: 6, BSE: 1, ENGE: 1,
COS: 3

Total: 38

Shandong Province



population:

97.3 million
(2nd, >CA+TX+NY)

infrastructure hub:

Beijing-Shanghai axis
international links (esp. Korea & Japan)

diverse industrial center:

food processing, iron & steel, oil,
non-metal minerals, machinery,
automotive, textiles, chemicals,
electronics, software, logistics

GDP (nominal):

US\$ 967 billion
(3rd, ≈ New England)

all data from 2014



national key university:

Projects 211 & 985

students:

~ 60,000 (1st) on 7 campuses

overall rankings in China:

- Ministry of Science & Technology, 2013: **7th**
- Shanghai Jiaotong University, 2009-2012: **8th-14th**
- Chinese Academy of Management Science, 2015: **10th**
- U.S. News & World Report, 2015: **14th** in China (world: SDU: 343th, VT: 248th)

Qingdao Opportunity: City of Qingdao



population:

8.7 million (2010)

GDP (nominal):

US\$ 131 billion (2013)

world's 6th largest port:

407.3 million tons (2012)

1.8 x Port of South Louisiana

international economic center:

126 Fortune 500 companies (2016)

transportation hub:

high-speed rail node,

airport (12 internat., 52 domestic)

subway system (opened 2015)

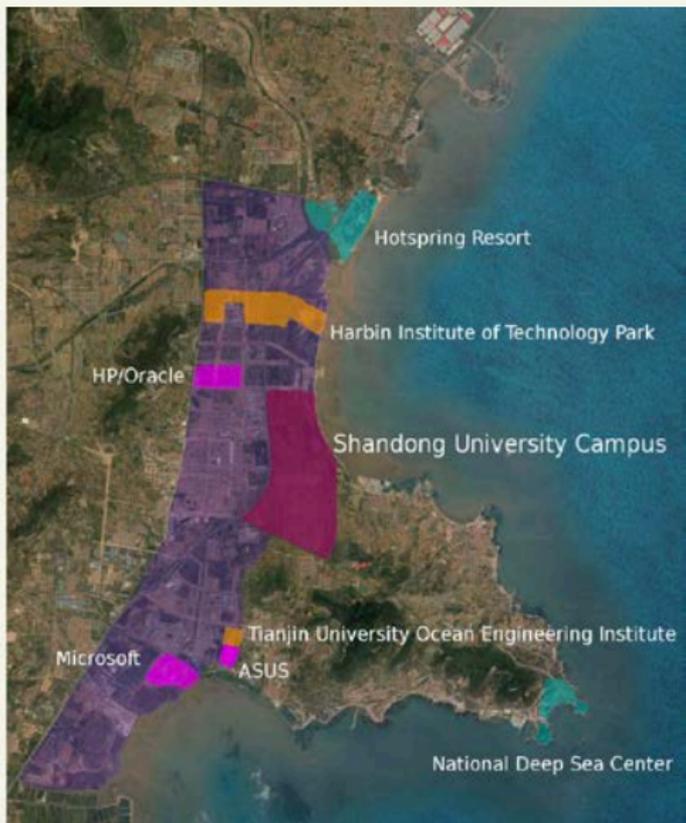
sights:

historic (German) downtown,

Taoist holy mountain (Mt. Lao),

beaches, hot springs

Qingdao Opportunity: "Blue Silicon Valley"



Qingdao Opportunity: New Campus



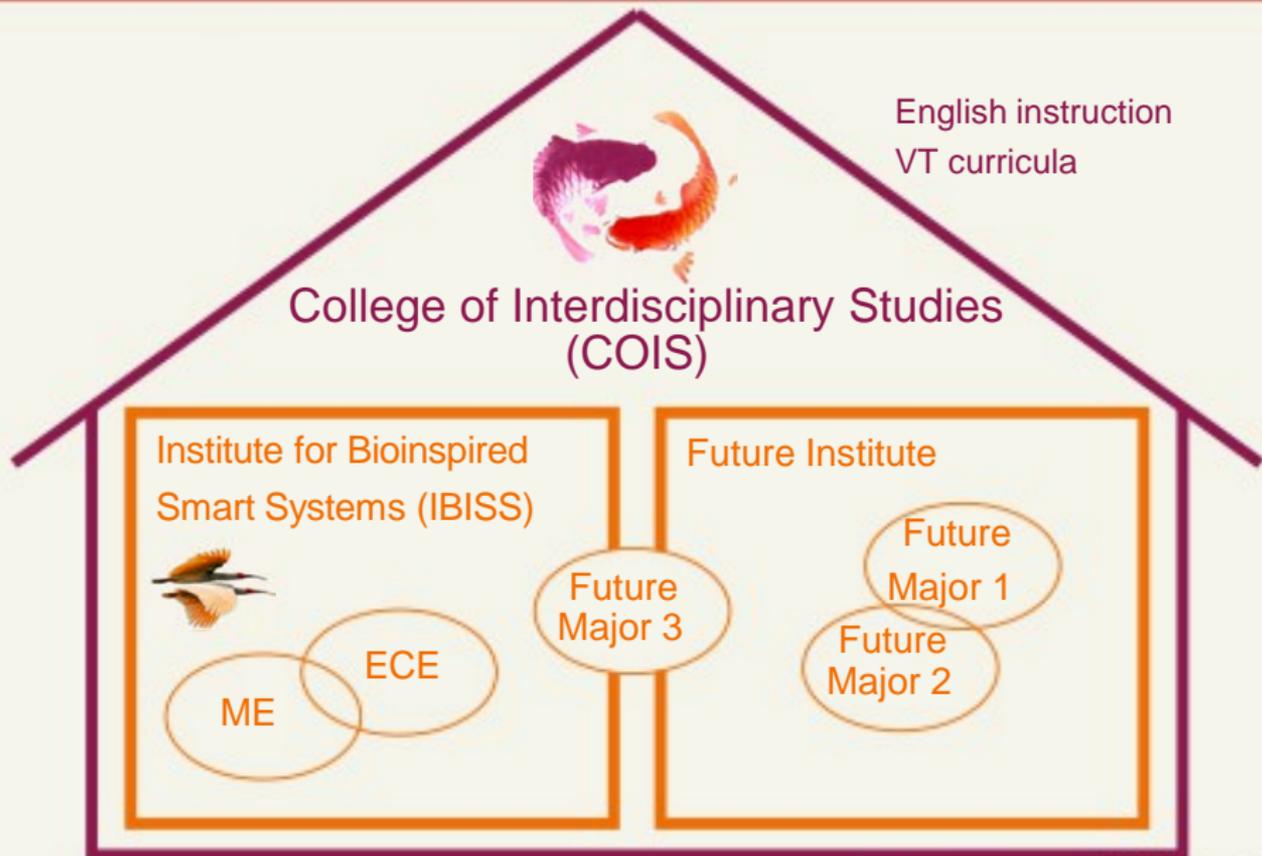
area: 3,000 acres
investment: ~US\$ 1.15 billion
1st phase inaugurated Sep. 2016

Qingdao Opportunity: Building



September 24th, 2016

124k sqft (80% of Goodwin Hall)



Initial Research Focus: Bioinspiration

