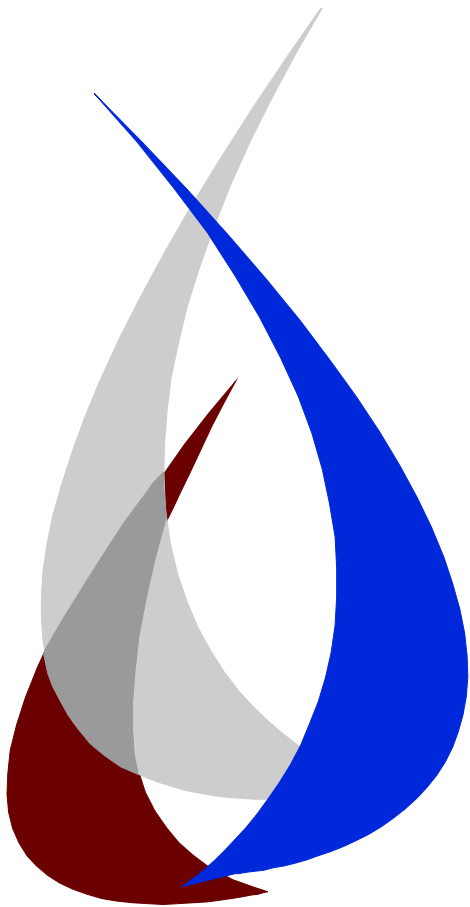




# STEM PEER GROUP CONFERENCE



**OCTOBER 26 -27, 2018**

VIRGINIA CROSSINGS HOTEL & CONFERENCE CENTER, GLEN ALLEN, VIRGINIA

# VCCS STEM PEER GROUP CONFERENCE

Supporting Anatomy & Physiology, Biology, Chemistry, Engineering & Applied Technologies, General Science, Geology, Mathematics, Microbiology, Technology (Information Systems Technologies, Computer Science, Cybersecurity) and Physics

Virginia Crossings Hotel & Conference Center, Glen Allen, Virginia

## AGENDA | Friday, October 26, 2018

<p><b>Registration</b> 11:00 a.m. – 5:00 p.m.</p> <p><b>Henrico Ballroom Foyer Madison Building</b></p>	<p>Please check in, pick up your badge and materials, and take advantage of this opportunity to meet with our exhibitors:</p> <ul style="list-style-type: none"> <li>▪ Colonial Scientific</li> <li>▪ Credits 2 Careers</li> <li>▪ eScience Labs</li> <li>▪ Hawkes Learning</li> <li>▪ McGraw-Hill Education</li> <li>▪ Pearson Education</li> <li>▪ VMATYC</li> </ul>
<p><b>Opening Luncheon</b> 11:15 a.m. – 12:25 p.m.</p> <p><b>Glen Restaurant Madison Building</b></p>	<p>Help yourself to the buffet in the restaurant, network with your colleagues from across the state, and be prepared to move to the Henrico Ballroom by 12:25 p.m. for the keynote address.</p>
<p><b>Session Keynote</b> 12:30 - 1:15 p.m.</p> <p><i>Room:</i> <b>Henrico Ballroom Madison Building</b></p> <p><i>Intended Audience:</i> <b>All</b></p>	<p><b>Keynote: The New VCCS General Education Outcomes: Meeting Our Objectives</b></p> <p><b>Tim Merrill</b>, Associate Vice President of Strategic Planning and Institutional Effectiveness Reynolds</p> <p>In July 2017, SCHEV approved its new policy on general education assessment. In order to comply with this new policy, VCCS is reviewing and revising its policy on general education outcomes. A task force representing all 23 community colleges has been working since last October to identify key areas of knowledge and skills for all VCCS graduates. Tim Merrill, Associate Vice President of Strategic Planning and Institutional Effectiveness at Reynolds Community College, will describe the process, share the draft policy language, and provide an update on this key initiative.</p>

<p><b>1:15 – 1:30 p.m.</b></p>	<p><b>15-minute session break</b></p>
<p><b>Session One</b>  <b>1:30 - 2:20 p.m.</b></p> <p><i>Room:</i>  <b>Henrico Ballroom A</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>All</b></p>	<p><b>The New VCCS General Education Outcomes: Meeting Our Objectives: Faculty Feedback Opportunity</b></p> <p><b>Catherine Finnegan</b>, Assistant Vice Chancellor for Institutional Effectiveness  Virginia’s Community Colleges</p> <p>The VCCS has been working with faculty, administrators and librarians from across the system as it works to revise General Education Outcomes to meet the needs of students in the 21st century. In this session we ask you to add your voice. Come share your ideas and perspectives, and take advantage of this opportunity to provide feedback to the system.</p>
<p><b>Session One</b>  <b>1:30 - 2:20 p.m.</b></p> <p><i>Room:</i>  <b>Henrico Ballroom B</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Information Systems</b>  <b>Technologies</b></p>	<p><b>Using GitHub Classroom in Programming Classes</b></p> <p><b>John Maxfield</b>, Professor  Blue Ridge</p> <p>I will demonstrate how I've used the free GitHub Classroom in programming assignments for individual students and teams. My students get practice using the popular development tool to work on their own or their team's repository.</p>
<p><b>Session One</b>  <b>1:30 - 2:20 p.m.</b></p> <p><i>Room:</i>  <b>Spotsylvania</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>All</b></p>	<p><b>Undergraduate Research—No Lab Coat Required</b></p> <p><b>Karen Neal</b>, Assistant Professor of Biology  Reynolds - Henrico</p> <p>Explore the possibilities of individualized research projects for your entry level science courses. No funding, lab coat or lab expertise are required using the citizen science approach to research. All disciplines welcome.</p> <p>Attendees will be introduced to the concept of using citizen science projects via <a href="http://www.zooinverse.org">www.zooinverse.org</a> as a means of incorporating individualized research projects into the curriculum of entry level science course.</p>
<p><b>To Access</b></p> <p><b>WiFi:</b></p>	<p>Connect to SSID: <b>Hilton Honors Meeting</b></p> <p>If the splash page does not automatically appear please open a web browser (Firefox, Chrome, Explorer, Safari, etc..)</p> <p>The splash page should come up, if not simply enter <a href="http://www.google.com">www.google.com</a> Click on promo code and enter <b>VCCSPEER2018</b> and click connect.</p> <p>*code is not case sensitive</p>

<p><b>Session One</b> 1:30 - 2:20 p.m.</p> <p><i>Room:</i> <b>Hanover Madison Building</b></p> <p><i>Intended Audience:</i> <b>Mathematics</b></p>	<p><b>Increasing Students' Understanding of Calculus: Applications from the Physics Perspective</b></p> <p><b>Phuc Tran</b>, Professor John Tyler - Midlothian</p> <p>Students learning calculus can take derivatives and integrate, but many lack the understanding of how to use these concepts. Applications in physics will be presented for math faculties to use to improve students' understanding of these concepts.</p>
<p><b>Session One</b> 1:30 - 2:20 p.m.</p> <p><i>Room:</i> <b>Brunswick Madison Building</b></p> <p><i>Intended Audience:</i> <b>Anatomy &amp; Physiology</b></p>	<p><b>A&amp;P Labs: A New Hope</b></p> <p><b>Marty Montpetit</b>, Professor of Biology John Tyler - Chester</p> <p><b>Jaime Mergliano</b>, Professor of Biology John Tyler - Midlothian</p> <p><b>Steve Carlisle</b>, Professor of Biology John Tyler - Midlothian</p> <p>Science labs provide an opportunity for active learning, but many A&amp;P labs are just laborious labeling assignments. We have designed labs that engage the students in active and collaborative exercises using available models, slides, and specimens.</p>
<p><b>Session One</b> 1:30 - 2:20 p.m.</p> <p><i>Room:</i> <b>Chesterfield Madison Building</b></p> <p><i>Intended Audience:</i> <b>Chemistry</b></p>	<p><b>Addressing Science Deficiencies: Technology, Sustainability, and Enhancing Writing Rigor in the Lab</b></p> <p><b>Lanette Upshaw</b>, Assistant Professor Virginia Western</p> <p>By developing an "in house" laboratory textbook that focuses on scientific analytical writing, technology, sustainability, and enhancing rigor, students are able to increase their knowledge of the scientific process and experimental skill sets.</p> <p>Insight will be gained of the steps involved in the process of laboratory curriculum development from conception to implementation, as well as on-going modifications. The presentation will address the broader deficiencies discovered during implementation: base scientific knowledge, analytical writing, equipment and lab notebook skill sets, and inability to draw basic conclusions from the lab data. The benefits of using an "in house" lab textbook vs. a traditional book from a publisher will be explored.</p>

<p><b>Session One</b> 1:30 - 2:20 p.m.</p> <p><i>Room:</i> <b>York</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Engineering</b></p>	<p><b>Go Big or Go Home! Building the Pipelines Students Need and Industry Leaders Want</b></p> <p><b>Todd Estes</b>, Director, Career Education Programs &amp; Workforce Partnerships Virginia's Community Colleges</p> <p>Community colleges serve as economic engines for their region by providing the education and training needed to fill 21st century jobs. However, workforce development takes many forms and is available from myriad providers. How will Virginia's Community Colleges continue to lead the way within the evolving business, economic, and political landscape? Let's talk about opportunities to go big! Work-based learning, active industry engagement, accelerated student schedules, credit for prior learning, connections with K12, and college promise pathways all hold the potential to help scale-up our programs across the Commonwealth. Bring your innovative ideas for an interactive session.</p>
<p><b>Session One</b> 1:30 - 2:20 p.m.</p> <p><i>Room:</i> <b>King William</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Biology</b></p>	<p><b>Teaching Critical Thinking Skills Using Case Studies</b></p> <p><b>Trudy Witt</b>, Associate Professor of Biology Germanna - Fredericksburg</p> <p>Using case studies to teach science improves students' critical thinking skills. But, how do you teach using case studies? Come learn some teaching methods from the 2018 Summer Workshop of the NSF's National Center for Case Study Teaching in Science.</p>
<p><b>Session One</b> 1:30 - 2:20 p.m.</p> <p><i>Room:</i> <b>Albemarle</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Geology</b></p>	<p><b>Incorporating Professional Skills in Geoscience Courses</b></p> <p><b>Pete Berquist</b>, Assistant Professor &amp; Department Chair of Geology Thomas Nelson - Williamsburg</p> <p><b>Callan Bentley</b>, Assistant Professor of Geology Northern Virginia - Annandale</p> <p><b>Lynsey LeMay</b>, Instructor of Geology Thomas Nelson - Hampton</p> <p><b>Karen Layou</b>, Professor of Geology Reynolds - Henrico</p> <p>We will explore how to incorporate workforce skills in geoscience classes. Participants will collaboratively identify indispensable professional skills to couple with geoscience content &amp; leave with tangible ways incorporate into their courses.</p>



<p><b>Session Two</b>  <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i>  <b>Spotsylvania</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>All</b></p>	<p><b>Guided Pathways for Science Degrees</b></p> <p><b>Jaime Mergliano</b>, Professor of Biology  John Tyler - Midlothian</p> <p><b>Steve Carlisle</b>, Professor of Biology  John Tyler - Midlothian</p> <p>Degrees that allow minimal options provide students with clear unambiguous pathways towards successful completion. We have set up our science transfer degree to provide students a clear and straightforward pathway to our local four-year schools.</p>
<p><b>Session Two</b>  <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i>  <b>Hanover</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Mathematics</b></p>	<p><b>Q: “When Will We Ever Use This (Math)?”</b>  <b>A: “Circuits!”</b></p> <p><b>Anna Bampton</b>, Associate Professor  John Tyler - Midlothian</p> <p>EGR 251 Circuits, a sophomore level class, utilizes many pages (!) of math concepts. As an engineering and former math instructor, I will present several example applications, from basic math, precalculus, calculus and differential equations.</p>
<p><b>Session Two</b>  <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i>  <b>Brunswick</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Anatomy &amp; Physiology</b></p>	<p><b>Two-Year/Four-Year A&amp;P/Nursing/Allied Health Departments Round Table Discussion</b></p> <p><b>Jeffrey Hollar</b>, Associate Professor of Biology  Lord Fairfax – Middletown</p> <p><i>Nursing &amp; Allied Health Panelists:</i>  <b>Jean Chappell</b>, Piedmont Virginia  <b>Tammy Colatruglio</b>, John Tyler  <b>Patricia Lawson</b>, Lord Fairfax  <b>Patti Lisk</b>, Germanna  <b>Jamie Robinson</b>, James Madison University  <b>Charles Smith</b>, Rappahannock  <b>Tamara Zurakowski</b>, Virginia Commonwealth University</p> <p>Join in the discussion of such issues as transferability of A&amp;P courses, course content, acceptance of community college’s online courses, plus much more.</p>

<p><b>Session Two</b> <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i> <b>Chesterfield</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Chemistry</b></p>	<p><b>In Defense of Access and Diversity: Current Research Regarding Online Chemistry and Biology Lecture and Lab Courses</b></p> <p><b>Shawn Shields</b>, Professor of Chemistry Germanna - Fredericksburg</p> <p><b>William Callan</b>, Assistant Professor of Biology Germanna - Fredericksburg</p> <p>Recent studies comparing learning outcomes for online labs versus traditional labs show online labs are at least as effective as traditional labs.</p>
<p><b>Session Two</b> <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i> <b>York</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Information Systems Technologies</b></p>	<p><b>A Workforce Development/Academic Partnership to Promote Technology Certification</b></p> <p><b>Robert Tureman</b>, Associate Professor of Information Systems Technology Paul D. Camp - Suffolk</p> <p><b>Thomas Czerwinski</b>, Adjunct Professor of Information Systems Technology Paul D. Camp - Suffolk</p> <p>We present design of a workforce development and academic partnership to offer IT certification training. Academic students need to have their test paid. Workforce students need small classes to run. The project combines resources to promote student success.</p>
<p><b>Session Two</b> <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i> <b>King William</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Biology</b></p>	<p><b>Engaging Students in the Classroom: Brief Oral Exercises</b></p> <p><b>Ann Evans</b>, Professor of Biology Thomas Nelson - Hampton</p> <p>Oral communication skills are vital but not regularly included in lecture. I redid my BIO 101 for repeated, brief oral exercises. Even students who didn't particularly 'like' the work found it 'helpful.' Most would've liked more! Come, listen, talk.</p>
<p><b>Session Two</b> <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i> <b>Albemarle</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Geology</b></p>	<p><b>Guided Pathways &amp; Geology</b></p> <p><b>Callan Bentley</b>, Assistant Professor of Geology Northern Virginia - Annandale</p> <p><b>Ken Rasmussen</b>, Professor of Geology Northern Virginia - Annandale</p> <p>Guided pathways are intended to provide students clear choices on validated academic tracks, minimizing wasted time &amp; effort. However, there may be collateral damage in the process, in particular for small disciplines. How best to optimize?</p>



<p><b>Session Two (continued)</b>  <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i>  <b>Albemarle</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Geology</b></p>	<p><b>Geology Transfer Roundtable</b></p> <p><b>Callan Bentley</b>, Assistant Professor of Geology  Northern Virginia - Annandale</p> <p>Representatives from 4-year colleges &amp; universities will be invited to share their perspectives on the transfer of students (and courses) from VCCS schools.</p>
<p><b>Session Two</b>  <b>2:30 - 3:20 p.m.</b></p> <p><i>Room:</i>  <b>Dinwiddie</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Engineering</b></p>	<p><b>The First Principle of Training</b></p> <p><b>Michael Plumb</b>, Department Chair Mechanical Engineering &amp; Safety Technologies  Tidewater - Virginia Beach</p> <p>The First Principle of Training: To identify training needs before trying to implement any training solutions. In this session we will discuss the applied reasoning to all facets of training: faculty and adjuncts, administrators and their supporting role in providing students the opportunity to learn the skill sets needed for employment and job promotion.</p>
<p><b>3:20 – 3:30 p.m.</b></p>	<p><b>10-minute break</b></p>
<p><b>Session Three</b>  <b>3:30 - 4:20 p.m.</b></p> <p><i>Room:</i>  <b>Henrico Ballroom A</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>All</b></p>	<p><b>NASA Digital Badging and Online Professional Learning Communities for STEM Educators</b></p> <p><b>Anne Weiss</b>, NASA Educator Professional Development Specialist</p> <p>This session will provide an overview of online NASA education resources, specifically educator professional development (PD) digital badging and learning community platforms as well as content for students interested in STEM careers.</p> <p>Given budget, geographic, and time constraints, STEM educators increasingly turn to the Internet for professional development (PD) that fits with their individual content and pedagogical needs. NASA Langley Research Center’s Office of Education oversees the management of both an online professional learning community (PLC) and a digital badging system, two popular methods for delivering PD. Online PLCs provide members with environments that support long-term collaborative partnerships for exchanging STEM content and development or modification of course activities. Digital badging, or micro-credentials, are online certifications of learning experiences that tell a story about an educator’s knowledge and skills. NASA seeks to promote high-quality STEM education that leverages the agency’s unique assets while at the same time it inspires the next generation of scientists and engineers.</p>

<p><b>Session Three</b> <b>3:30 - 4:20 p.m.</b></p> <p><i>Room:</i> <b>Henrico Ballroom B</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Information Systems</b> <b>Technologies</b></p>	<p><b>Forget C++, Program Arduinos in Python and Focus on STEM</b></p> <p><b>William Oliver</b>, Professor Blue Ridge</p> <p>Learn how to bypass Arduino C++ entirely with Adafruit's open-source CircuitPython programming language, compatible with a range of Arduino-compatible microcontrollers and high-quality sensors. Focus on science, math, and problem solving.</p> <p>Participants will learn the advantages of CircuitPython and compatible hardware, with focus on easy to build/code projects that can be used in science and math courses as well as middle- and high-school outreach.</p>
<p><b>Session Three</b> <b>3:30 - 4:20 p.m.</b></p> <p><i>Room:</i> <b>Spotsylvania</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>All</b></p>	<p><b>Early Alert and Advising Tools in EAB Navigate Campus</b></p> <p><b>Sue Ann Curran</b>, Program Technical Coordinator VCCS System Office</p> <p>EAB Campus will replace SAILS as the early alert system in 2019 and introduce advising tools. The presentation includes an overview of EAB Campus along with a description of its functionality for early alert, attendance, and academic advising.</p>
<p><b>Session Three</b> <b>3:30 - 4:20 p.m.</b></p> <p><i>Room:</i> <b>Hanover</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Mathematics</b></p>	<p><b>Quantitative Reasoning—Content Revisited</b></p> <p><b>Bob Parker</b>, Mathematics Discipline Lead Germanna - Fredericksburg</p> <p>Quantitative Reasoning is now implemented in all colleges. We will use this opportunity to revisit the course objectives for the purpose of clarifying objectives and proposing any edits. Remaining time will be spent sharing ideas and questions.</p>
<p><b>Session Three</b> <b>3:30 - 4:20 p.m.</b></p> <p><i>Room:</i> <b>Brunswick</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Anatomy &amp; Physiology</b></p>	<p><b>Activities and Strategies to Get Students Actively Engaged in Anatomy Lab</b></p> <p><b>Julie Fasano</b>, Microbiology Professor Germanna - Fredericksburg</p> <p>A critical examination of anatomical models during anatomy lab is crucial for success. This session will demonstrate activities, and share strategies, that "compel" students to examine models closely, while working together effectively in anatomy lab</p> <p>When using anatomical models and charts in anatomy lab, the objective is to have students use a list of specifically selected structures, and to critically examine each model so as to correctly identify and distinguish</p>

between these structures on the models. This process is crucial if students are to succeed on practical exams. Getting students to do this effectively isn't always easy. Stronger students might use answer keys and look over the models independently. However, many students give the anatomical models only a cursory look (if at all), and usually begin a task that doesn't involve either the models or charts, before trying to leave lab early. This session will demonstrate various activities, and share some strategies that can be used in the lab, to "compel" students to critically examine the models and charts during lab, to work together and learn from each other, and to understand how the anatomical structures are connected for function, all while using the entire lab period effectively.

**Session Three**  
**3:30 - 4:20 p.m.**

*Room:*

**Chesterfield**  
**Madison Building**

*Intended Audience:*

**Chemistry**

### **Amadeo Carlo Avogadro, Solution Mining, and US Patents**

**Roy Kaplan**, Professor, Chemistry Department  
John Tyler - Midlothian

Amadeo Avogadro, Solution Mining, & US Patents. What do these three seemingly unconnected topics have in common? They are the subjects of laboratory exercises conducted in John Tyler's CHM-101/111 labs to demonstrate important chemical concepts.

The object of this presentation is to describe in detail three laboratory experiments currently being conducted at John Tyler to demonstrate, in an easy to understand format, basic concepts discussed in the classroom. Actual copies of the exercises and a list of the materials needed to conduct them s will be available at the STEM Peer Group Conference along with student-acquired data.

**Session Three**  
**3:30 - 4:20 p.m.**

*Room:*

**York**  
**Madison Building**

*Intended Audience:*

**Engineering**

### **Engineering Roundtable Discussion**

**Jeff Levy**, Department Head  
New River

Join your colleagues for a roundtable discussion and share current issues and concerns at your campus.

**Session Three**  
**3:30 - 4:20 p.m.**

*Room:*  
**King William**  
**Jefferson Building**

*Intended Audience:*  
**Biology**

**JOINT SESSION**

**Foundations of Life Sciences (NAS 2): A Developmental Biology Course Designed as the Prerequisite for Anatomy and Physiology (BIO141) and Microbiology (BIO150)**

**Melinda Clark**, Assistant Professor  
Piedmont Virginia

NAS 2 provides foundational material and the study skills necessary for success. The learning objectives, teaching modality, OER, and TBL activities, including “lab day,” will be reviewed. Lessons learned and success rates will be discussed.

**Inquiry Labs—Engaging Students in the Scientific Process**

**Diane Tulipani**, Adjunct Professor of Biology  
Rappahannock - Glens

**Lisa Merritt**, Associate Professor, Biological Sciences  
Rappahannock - Glens

Inquiry-based labs promote active learning, development of critical thinking, and promotes appreciation of the scientific process. We will discuss the successful use of inquiry labs to investigate chemical composition, enzyme activity, and ecology.

**Session Three**  
**3:30 - 4:20 p.m.**

*Room:*  
**Albemarle**  
**Jefferson Building**

*Intended Audience:*  
**Geology**

**Weathering The Grave: Using Local Cemeteries to Learn About Chemical Weathering**

**Russell Kohrs**, Adjunct Professor of Geology  
Lord Fairfax - Middletown

Using tombstones from local cemeteries, this session will explore a fascinating way to give students field data collection and analysis opportunities using a local resource that is freely available in most communities to teach about weathering.

The goal of this session will be to explore a method to teach students about physical and chemical weathering using simple data collection techniques. Students are given more opportunities to work with data to create graphs and analyze trends in that data in order to explore weathering rates in the area. Attendees will leave with the tools necessary to implement a version of this activity into their own classrooms and lab settings.

**NOTE:** Attendees should bring a fully charged laptop or tablet to participate in this interactive session.

**Bring your device!**

**Session Three**  
**3:30 - 4:20 p.m.**

*Room:*  
**Dinwiddie**  
**Jefferson Building**

*Intended Audience:*  
**Applied Technologies &**  
**Building Trades**

### **Go Big or Go Home! Building the Pipelines Students Need and Industry Leaders Want**

**Todd Estes**, Director, Career Education Programs & Workforce Partnerships  
Virginia's Community Colleges

Community colleges serve as economic engines for their region by providing the education and training needed to fill 21st century jobs. However, workforce development takes many forms and is available from myriad providers. How will Virginia's Community Colleges continue to lead the way within the evolving business, economic, and political landscape? Let's talk about opportunities to go big! Work-based learning, active industry engagement, accelerated student schedules, credit for prior learning, connections with K12, and college promise pathways all hold the potential to help scale-up our programs across the Commonwealth. Bring your innovative ideas for an interactive session.

**4:20 – 4:30 p.m.**

**10-minute session break**

**Session Four**  
**4:30 - 5:20 p.m.**

*Room:*  
**Henrico Ballroom A**  
**Madison Building**

*Intended Audience:*  
**All**

### **VSGC Community College NASA Internship Opportunities**

**Nicole Shaw**, Program Assistant  
Old Dominion University

Students will conduct hands-on summer research projects at NASA Langley Research Center or NASA Wallops Flight Facility. These paid opportunities will be open to all VA Community College students with a STEM major meeting academic requirements. There will be approximately 20 positions available for community college students to work directly with NASA researchers on various projects.

**Session Four**  
**4:30 - 5:20 p.m.**

*Room:*  
**Henrico Ballroom B**  
**Madison Building**

*Intended Audience:*  
**Information Systems**  
**Technologies**

### **What Will It Take to Finally Put a Spear Through IPv4 and Embrace IPv6?**

**José Nieves**, Professor of Information Technology  
Lord Fairfax - Faquier

We will explore why, after reaching capacity on available IP addresses, the TCP/IP v4 protocol suite still survives, even after IPv6 was developed, adopted officially in 2011, and touted to have virtually unlimited IP addresses. Why hasn't v4 died?

This session will explore why it is that, although an alternative to the aging, yet well-established TCP/IP protocol suite v4 has been developed and officially adopted for over 7 years, the networking world has not embraced TCP/IP v6 and continues to cling to the former. The session will also explore "what will it take" to leave v4 behind and embrace v6.

<p><b>Session Four</b> <b>4:30 - 5:20 p.m.</b></p> <p><i>Room:</i> <b>Spotsylvania</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Engineering</b></p>	<p><b>Mechatronics Roundtable</b></p> <p><b>Eric Beaver</b>, Instructor, Mechatronics Tidewater</p> <p>This roundtable discussion will cover various topics including (but not limited to) industry needs and advisory committees, industry credentials, challenges facing the industry and graduates, system level course prerequisites, articulation agreements, educational resources and equipment, and emerging topics. Please feel free to bring your own questions and topics for conversation!</p>
<p><b>Session Four</b> <b>4:30 - 5:20 p.m.</b></p> <p><i>Room:</i> <b>Hanover</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Mathematics</b></p>	<p><b>The Use of Maple Software in a Calculus Course</b></p> <p><b>Matthew Westerhoff</b>, Associate Professor of Mathematics Northern Virginia - Annandale</p> <p><b>John Sound</b>, Associate Professor of Mathematics Northern Virginia - Alexandria</p> <p>We will provide an overview of Maple, discuss the possible use of Maple in a Calculus course, and show some assignments that provide students an understanding of calculus concepts while learning how to use a computational tool such as Maple.</p>
<p><b>Session Four</b> <b>4:30 - 5:20 p.m.</b></p> <p><i>Room:</i> <b>Brunswick</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Biology</b></p>	<p><b>Innovative, New Ideas for Engaging A&amp;P Students</b></p> <p><b>Trudy Witt</b>, Associate Professor of Biology Germanna - Fredericksburg</p> <p>Could you use some innovative, new ideas for engaging your A&amp;P students? Join us for highlights from workshops presented by some of the best A&amp;P faculty in the country at the 2018 HAPS (Human Anatomy and Physiology Society) National Conference.</p>
<p><b>Session Four</b> <b>4:30 - 5:20 p.m.</b></p> <p><i>Room:</i> <b>Chesterfield</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Chemistry</b></p>	<p><b>You Had Me at Hello: Creating a Syllabus that Excites Students to Learn</b></p> <p><b>Ritu Kansal</b>, Associate Professor Northern Virginia - Annandale</p> <p>The syllabus is our first opportunity to engage students, yet many times it does not excite students and is underused. Join in to discuss how we can use infographics and real world examples to create a syllabus that can motivate students to learn.</p>

<p><b>Session Four</b> <b>4:30 - 5:20 p.m.</b></p> <p><i>Room:</i> <b>York</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Engineering</b></p>	<p><b>Using Tablet PCs and OneNote Class Notebook to Improve Student Learning and Class Management</b></p> <p><b>Brian Hale</b>, Associate Professor of Engineering/Program Head Southwest Virginia</p> <p>Tablet PCs and OneNote with the Class Notebook Add-on are great tools for teaching engineering courses. Faculty can use the tools for lecture note backup and distribution while students can use the tools for homework creation and more efficient assi</p> <p>The session’s goal is to demonstrate the use of advanced technology for teaching engineering courses. Tablet PCs and OneNote together can provide improved course organization and student organization. It can increase the speed students receive feedback for both in-progress and completed homework submissions. Faculty throughout the VCCS could adopt some or all of the tools demonstrated to improve how they teach their traditional courses and online courses.</p>
<p><b>Session Four</b> <b>4:30 - 5:20 p.m.</b></p> <p><i>Room:</i> <b>King William</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Biology</b></p>	<p><b>Microbiology Prerequisites, Course Content and More</b></p> <p><b>Tim Rhoads</b>, Professor of Biology Central Virginia</p> <p>Topics to be discussed concerning BIO 150 and BIO 205: appropriate prerequisites for each course, comparison of course content and students served, etc. Bring your own questions and ideas for this roundtable discussion. Also bring your syllabi.</p>
<p><b>Session Four</b> <b>4:30 - 5:20 p.m.</b></p> <p><i>Room:</i> <b>Albemarle</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Geology</b></p>	<p><b>Taking Better Geological Photos</b></p> <p><b>Callan Bentley</b>, Assistant Professor of Geology Northern Virginia - Annandale</p> <p>Geologists make &amp; use photographs of samples, outcrops, &amp; landscapes. Great photos make geological relationships clear. Poor photos waste time &amp; obscure information. Participants will contribute images, critique, practice techniques, &amp; share photos.</p> <p>Give participants an expanded skill set to allow them to make better geologic photographs. Participants will share their own photos and critique a selection of those images. Participants will be able to take home the full suite of contributed images for use in their classes.</p>

<p><b>Session Four</b>  <b>4:30 - 5:20 p.m.</b></p> <p><i>Room:</i>  <b>Dinwiddie</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>General Science</b></p>	<p><b>How to Counter the Attacks on Science</b></p> <p><b>Richard Groover</b>, Assistant Dean of Math, Science, &amp; Engineering  Reynolds - Henrico</p> <p>The Disinformation Playbook presented in this session will be revealed showing efforts occurring to discredit information from science and science research, and provide suggestions on how educators can handle such in the classroom sessions.</p> <p>Scientists and educators face challenges from concerted efforts to create disinformation about science. This presentation will provided documented evidence of efforts to discredit science. The Disinformation Playbook will be presented in this session and reveal what efforts occur to discredit information from science and science research, and provide suggestions on how educators can handle such in the classroom sessions.</p>
<p><b>5:20 p.m.</b></p>	<p><b>End of Day One—Dinner On Your Own</b></p>

## Dining Suggestions

In addition to Virginia Crossings' excellent restaurant and tavern, below are a few of the many restaurants nearby:

- **Rapid Pizza**, 1592 Mountain Rd
- **O'Bank's Cafe & Grill**, 10392 Leadbetter Rd (Cuisines: American, Bar, Pub)
- **Jade Restaurant**, 10180 Lakeridge Pkwy (Cuisines: Chinese, Asian)
- **Jersey Mike's Subs**, 10180 Lakeridge Pkwy Ste. 105
- **Waffle House**, 8400 Brook Rd
- **Thai Gourmet**, 9555 Kings Charter Dr. Ste. F (Cuisines: Asian, Thai)
- **Frida's Mexican Restaurant**, 910 E Parham Rd (Cuisines: Mexican)
- **Marty's Grill**, 9357 Atlee Rd Ste. 1111 (Cuisines: American, Bar)
- **Kreggers Tap and Tablecreole**, 9523 Kings Charter Dr. (Cuisines: Barbecue, American, Cajun & Creole)
- **Bella Luna Ristorante Italiano**, 1212 Concord Ave (Italian, Pizza)
- **Mi Jalisco Family Mexican Restaurant**, 9523B Kings Charter Dr.
- **Starbucks**, 8137 Brook Rd North Park Shopping Center
- **Sweet Frog Ashland**, 10040 Sliding Hill Rd (Frozen Yogurt)
- **Ming's Dynasty**, 1200 Concord Ave (Cuisines: Chinese, Asian)
- **Phoenix Garden Vegetarian Restaurant**, 7103 Brook Rd (Cuisines: Asian, Vietnamese, Vegan)
- **Vito's**, 9555 Kings Charter Dr. Ste. M (Italian, Pizza)



# AGENDA | Saturday, October 27, 2018

<p><b>Breakfast</b> 7:15 – 8:00 a.m.</p> <p><b>Glen Restaurant</b></p>	<p>Please help yourself to the hotel’s breakfast buffet, take advantage of this final opportunity to visit our exhibitors and network with colleagues from across the state, and be ready to move to the Henrico Ballroom no later than 8:00 a.m. for our special morning keynote presentation.</p>
<p><b>Session Morning Plenary</b> 8:10 - 8:55 a.m.</p> <p><i>Room:</i> <b>Henrico Ballroom Madison Building</b></p> <p><i>Intended Audience:</i> <b>All</b></p>	<p><b>Transfer Virginia: Making Transfer Work for Everyone</b></p> <p><b>Patricia Parker</b>, Project Director, Transfer Virginia Virginia's Community Colleges</p> <p>Transfer Virginia is a collaborative partnership that embraces the growing need for seamless transfer amongst the Commonwealth’s institutions. By addressing such areas as course transferability, timeliness of transfer, equity in mobility, and efficiency in credit earning, Transfer Virginia will transform the transfer experience for our students. Come learn more about the Transfer Virginia project and how you as faculty can be a part of this exciting journey. Your questions and ideas are welcome!</p>
<p>8:55 – 9:10 a.m.</p>	<p><b>15-minute session break</b></p>
<p><b>Session Five</b> 9:10 - 10:00 a.m.</p> <p><i>Room:</i> <b>Henrico Ballroom A Madison Building</b></p> <p><i>Intended Audience:</i> <b>All</b></p>	<p><b>Civic Engagement in the STEM Classroom</b></p> <p><b>Gillian Backus</b>, Professor Northern Virginia - Loudoun</p> <p><b>Ritu Kansal</b>, Professor Northern Virginia - Annandale</p> <p>At the 2018 New Horizons Conference, new General Education Outcomes were unveiled, to include civic engagement. What is civic engagement? And what might civic engagement look like in STEM fields? Join us to explore answers to these questions.</p>
<p><b>Session Five</b> 9:10 - 10:00 a.m.</p> <p><i>Room:</i> <b>Henrico Ballroom B Madison Building</b></p>	<p><b>Using OER Textbooks in Computer Science Classes</b></p> <p><b>Jeffrey Elkner</b>, CS &amp; IT Instructor Northern Virginia - Alexandria</p> <p>An NVCC dual-enrollment instructor will share two Open Educational Resource (OER) textbooks he uses for CSC 200 and CSC 205, discuss how this has benefited him and his students, and suggest how it could benefit instructors throughout the VCCS.</p>

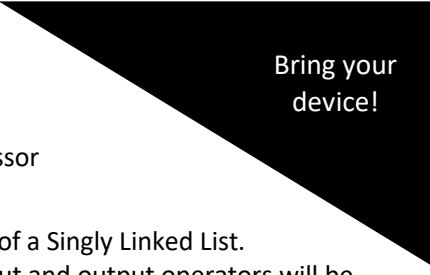
<p><i>Intended Audience:</i> <b>Computer Science &amp; Cybersecurity</b></p>	<p>Open Educational Resources (OER) provide instructors with materials that can be adapted and customized, providing them the ability to bring their own expertise into their text materials, better meeting student needs. They also offer the potential for greater collaboration among VCCS instructors, building a community of practice around the materials we co-develop. In this presentation an NVCC dual-enrollment CS instructor will share two OER textbooks he uses for CSC 200 and CSC 205, discuss the development process used to customize them, and share how this has benefited both him and his students and could have broader benefits to VCCS CS instructors throughout the system.</p>
<p><b>Session Five</b> <b>9:10 - 10:00 a.m.</b></p> <p><i>Room:</i> <b>Spotsylvania</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>All</b></p>	<p><b>Meet and Greet Problem Solving: Strategies to Integrate Active Learning Content into Traditional First Day Activities</b></p> <p><b>Jennifer Polm</b>, Instructor John Tyler - Chester</p> <p>Participants in this session will explore first day activities that better reflect a typical class meeting and set the tone for active learning in the classroom. Participants will also brainstorm modifications for their own courses or disciplines.</p> <p>Participants will explore how students can be given the opportunity to walk out of the first day of class having already solved course-related problems, feeling comfortable with the required course software, as well as their classmates, while also overcoming common classroom fears. The session will conclude with participants brainstorming and sharing how they could modify these activities for their own courses or disciplines.</p>
<p><b>Session Five</b> <b>9:10 - 10:00 a.m.</b></p> <p><i>Room:</i> <b>Hanover</b> <b>Madison Building</b></p> <p><i>Intended Audience:</i> <b>Mathematics</b></p>	<p><b>Precalculus Tips &amp; Tricks</b></p> <p><b>Theresa Thomas</b>, Math Dept Chair/Associate Dean Blue Ridge</p> <p>Aren't we always looking for more ways to engage our students in the material? The projects presented are Precalc-centered; however, the tips and tricks shown in this presentation can be used at any level. You will learn about "vux' and "hoy," GARY, "f-words," cheers, scavenger hunts, graphing families, etc....</p> <p>Students need to be engaged in the material for meaningful learning to take place. Providing a classroom environment that promotes creativity through various projects, and teaching techniques, leads to a less intimidating and more rewarding experience for the students.</p>

<p><b>Session Five</b>  <b>9:10 - 10:00 a.m.</b></p> <p><i>Room:</i>  <b>Brunswick</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Anatomy &amp; Physiology</b></p>	<p><b>Faculty Advising for Bio 141-142/Navigate/Pathways</b></p> <p><b>Jeffrey Hollar</b>, Associate Professor of Biology  Lord Fairfax - Middletown</p> <p>This session is focusing on best practices for faculty advising for BIO 141-142 in the context of the new VCCS wide use of Navigate/Pathways software.</p>
<p><b>Session Five</b>  <b>9:10 - 10:00 a.m.</b></p> <p><i>Room:</i>  <b>Chesterfield</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Chemistry</b></p>	<p><b>Chemistry Working Group: Chemistry 111/112 Course Objectives</b></p> <p><b>Katherine Burton</b>, Professor of Chemistry  Northern Virginia - Alexandria</p> <p>The Chemistry Working Group was formed in November of 2013. This session will continue to explore the course objectives for Chemistry 111 and 112, to determine if there is room for developing any "common objectives" across the VCCS.</p>
<p><b>JOINT SESSION</b></p>	<p><b>Chemistry Working Group: Chemistry 111/112 Laboratory Discussion</b></p> <p><b>Sam Dillender</b>, Professor of Chemistry  Lord Fairfax - Middletown</p> <p>The Chemistry Working Group continues to explore and investigate the various labs that are conducted in Chemistry 111 and 112 courses across the VCCS. The aim is to determine if there is a desire to "standardize" these labs.</p>
<p><b>Session Five</b>  <b>9:10 - 10:00 a.m.</b></p> <p><i>Room:</i>  <b>York</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Engineering</b></p>	<p><b>Updating Engineering Fundamentals Course Descriptions</b></p> <p><b>Brian Hale</b>, Associate Professor of Engineering/Program Head  Southwest Virginia</p> <p>The course descriptions for the freshmen engineering sequence courses (EGR 120, EGR 110, EGR 115) have not been updated in over twenty years. As demands for course transferability change so too must the course objectives and content.</p> <p>The session's goal is to update the wording for the course descriptions of the freshmen engineering courses. These courses have changed over the years and the course descriptions do not fully represent the objectives of the courses. This can become an issue when trying to get these courses approved for transfer to four-year-year engineering programs.</p>

<p><b>Session Five</b> 9:10 - 10:00 a.m.</p> <p><i>Room:</i> <b>King William</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Biology</b></p>	<p><b>Spicing up Bio 101: Incorporating Short, Interactive Activities to Promote Learning</b></p> <p><b>Lynette Hauser</b>, Assistant Professor of Biology Tidewater - Portsmouth</p> <p>A challenge of Bio 101 is finding a balance between delivering content and keeping students engaged. To address this, I use short, interactive activities that help break the lecture and touch on key biology concepts. I will share my experiences.</p> <p>Through the session participants will partake in multiple short, interactive activities related to Bio 101 content. The facilitator will discuss how she incorporated the activities successfully into her classroom to balance delivering content and engaging students. Participants will leave with tools they can use in their own teaching.</p>
<p><b>Session Five</b> 9:10 - 10:00 a.m.</p> <p><i>Room:</i> <b>Albemarle</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Physics</b></p>	<p><b>Project-based Physics Teaching</b></p> <p><b>Elena Kuchina</b>, Professor of Physics Thomas Nelson - Hampton</p> <p>The goal of a project-based physics teaching is to motivate students and prepare them for the changing needs of the modern world. The hands-on approach seems to make physics more appealing to the underrepresented groups.</p>
<p><b>Session Five</b> 9:10 - 10:00 a.m.</p> <p><i>Room:</i> <b>Dinwiddie</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Applied Technologies</b></p>	<p><b>Applied Technologies Roundtable Discussion</b></p> <p><b>Jeff Levy</b>, Program Head New River</p> <p>Join your colleagues for a roundtable discussion and share current issues and concerns at your campus.</p>
<p><b>Session Five</b> 9:10 - 10:00 a.m.</p> <p><i>Room:</i> <b>King George</b> <b>Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>All</b></p>	<p><b>Designing Accessible Syllabi</b></p> <p><b>Joressia Beyer</b>, Biology Professor John Tyler - Midlothian</p> <p>Imagine how frustrating it would be to attempt to read a syllabus using a screen reader and your screen reader cannot read it. I will teach you the 6 simple steps to make your syllabus accessible and ensure equality of opportunity for all.</p> <p><b>NOTE:</b> Attendees should bring a fully charged laptop or tablet to participate in this interactive session.</p>

Bring your device!

<p><b>Session Five</b>  <b>9:10 - 10:00 a.m.</b></p> <p><i>Room:</i>  <b>Buckingham</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Biology</b></p>	<p><b>Data Points by HHMI BioInteractive</b></p> <p><b>Maury Wrightson</b>, Associate Professor of Biology &amp; Geology  Germanna - Fredericksburg</p> <p>Do you want students to be able to interpret figures and draw conclusions? Then come learn to use Data Points to teach scientific content and improve students' comfort working with data. Each Data Point includes a figure from primary literature, cap</p> <p>Introduce instructors to Data Points by HHMI BioInteractive and explore how this resource can be used in the classroom.</p>
<p><b>10:00 – 10:10 a.m.</b>                      <b>10-minute session break</b></p>	
<p><b>Session Six</b>  <b>10:10 - 11:00 a.m.</b></p> <p><i>Room:</i>  <b>Henrico Ballroom A</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Mathematics</b></p>	<p><b>Implementing the Corequisite Model of Developmental Mathematics</b></p> <p><b>Zack Beamer</b>, Assistant Professor &amp; Mathematics Department Chair  Piedmont Virginia</p> <p>In the corequisite model, students at the margins of preparedness are given in-time remediation. This session overviews the research supporting a transition to the coreq model and presents initial findings from one college using a coreq (MCR 4).</p>
<p><b>Session Six</b>  <b>10:10 - 11:00 a.m.</b></p> <p><i>Room:</i>  <b>Henrico Ballroom B</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Computer Science &amp;</b>  <b>Cybersecurity</b></p>	<p><b>New Teaching Methods:</b>  <b>C++ Linked List</b></p> <p><b>A. Jeffrey Goldstein</b>, Adjunct Professor  Tidewater - Virginia Beach</p> <p>A presentation of an advanced Lab of a Singly Linked List. Overloaded friend functions for input and output operators will be shown using a useful program that deals with student names, zipcodes, gender, &amp; GPA using objects containing structs.</p> <p>Share teaching strategies, techniques, and computer lab assignments for an advanced C++ semester curriculum.</p> <p><b>NOTE:</b> Attendees should bring a fully charged laptop or tablet to participate in this interactive session.</p>



Bring your device!

**Session Six**  
**10:10 - 11:00 a.m.**

*Room:*  
**Spotsylvania**  
**Madison Building**

*Intended Audience:*  
**All**

### **Storytelling: A Way to Teach, a Way to Learn**

**Melissa Back**, Asst Professor of Biology  
Southside Virginia - Keysville

Listening to stories is how we learn. Cause and effect, critical thinking and knowledge are not memorized, they are integrated through hearing, creating and imagining stories. Let's share ideas on how to bring this tool into our classrooms!

The goal of this session is to offer a new way to present content to students which may engage and encourage metacognition and critical thinking skills.

**Session Six**  
**10:10 - 11:00 a.m.**

*Room:*  
**Hanover**  
**Madison Building**

*Intended Audience:*  
**Mathematics**

### **Variation of Pascal's Triangle**

**Heng Fu**, Professor  
Tidewater - Virginia Beach

**Andrew Fu**, Student  
Princess Anne High School

**Yanyu Jiang**, Student  
Princess Anne High School

Pascal's triangle is traditionally perceived as having two-dimensional properties. In this presentation, we model the formation of a variation of a three-dimensional Pascal triangle. We will prove the closed form generalization for each entry.

**Session Six**  
**10:10 - 11:00 a.m.**

*Room:*  
**Brunswick**  
**Madison Building**

*Intended Audience:*  
**Anatomy & Physiology**

### **Best Practices for Using Anatomage Tables in the A&P Laboratory**

**Jeffrey Hollar**, Associate Professor of Biology  
Lord Fairfax - Middletown

This session focuses on developing best practices for using the Anatomage table, a virtual cadaver series, in the A&P laboratory across the VCCS community colleges.

The goal of this session is to explore and develop best practices for using the Anatomage table in the A&P laboratory across the VCCS community colleges.

<p><b>Session Six</b> 10:10 - 11:00 a.m.</p> <p><i>Room:</i> <b>Chesterfield Madison Building</b></p> <p><i>Intended Audience:</i> <b>Chemistry</b></p>	<p><b>Two-Year/Four-Year Chemistry Department Round Table Discussion</b></p> <p><b>Sam Dillender</b>, Professor of Chemistry Lord Fairfax - Middletown</p> <p><b>Ernie Grisdale</b>, Professor of Chemistry Lord Fairfax - Middletown</p> <p>A round table discussion will be held with four year schools to discuss such issues as transferability of chemistry courses, names of chemistry courses, separation of lecture and lab, acceptance of community college's organic course, plus much more.</p>
<p><b>Session Six</b> 10:10 - 11:00 a.m.</p> <p><i>Room:</i> <b>York Madison Building</b></p> <p><i>Intended Audience:</i> <b>Engineering</b></p>	<p><b>Creating a STEM Club to Aid Student Success!</b></p> <p><b>Cathleen McCarthy-Burke</b>, STEM-H Coordinator John Tyler - Midlothian</p> <p><b>Pascal Renault</b>, Professor, Physics John Tyler - Chester</p> <p><b>Shijian Chu</b>, Associate Professor, Biology John Tyler - Chester</p> <p><b>Patricia Silva-Santisteban</b>, Associate Professor, Information Technology John Tyler - Chester</p> <p>Establishing, and maintaining a student interest club can be daunting. We have increased the number and diversity of students in the STEM-H club at JTCC. Come and get some tips on creating clubs that engage, retain and promote student success.</p>
<p><b>Session Six</b> 10:10 - 11:00 a.m.</p> <p><i>Room:</i> <b>King William Jefferson Building</b></p> <p><i>Intended Audience:</i> <b>Biology</b></p>	<p><b>Campus Tours: Restructuring Biology 102 to Incorporate Mini-Field Trips and Experiential Learning about Local Biota</b></p> <p><b>Joanna Vondrasek</b>, Professor of Biology Piedmont Virginia</p> <p>I restructured BIO 102 to include three sessions where students take a guided tour of campus ecosystems. I will present how the tours are integrated into course content, the assessment, and a brief demonstration of a guided campus tour.</p> <p>The goal of this presentation is to demonstrate how to incorporate more field-based, experiential learning into introductory biology courses separate from the laboratory component of the course.</p>

**Session Six**  
**10:10 - 11:00 a.m.**

*Room:*  
**Albemarle**  
**Jefferson Building**

*Intended Audience:*  
**Physics**

### **The Distance to Two Variable Stars of Different Type by the Period-Luminosity Method of Miss Henrietta Swan Leavitt**

**Thomas Mosca**, Professor of Mathematics  
Rappahannock - Warsaw

Students who are exposed to science early are more likely to have their curiosity aroused and from there to participate in science at university and, ultimately, as professionals. We published research with a student as principal investigator.

Students who are exposed to science early are more likely to have their curiosity aroused and from there to participate in science at university and, ultimately, as professionals. Many VCCS students do not have this exposure, especially those in rural communities, and also especially first generation college students. This project was designed to engage students in scholarly research under the guidance of faculty, stimulate students to prepare formal, high quality presentations, and encourage students to present at formal meetings of professional scientists. These goals were accomplished, and we begin with new students right away.

**Session Six**  
**10:10 - 11:00 a.m.**

*Room:*  
**Dinwiddie**  
**Jefferson Building**

*Intended Audience:*  
**General Science**

### **Revising the Science AA&S Curriculum at Germanna Community College to Facilitate Student Transfer to Four-Year Universities**

**Shawn Shields**, Professor of Chemistry  
Germanna - Fredericksburg

**William Callan**, Assistant Professor of Biology  
Germanna - Fredericksburg

The Science Department at GCC has significantly revised the Science AA&S curriculum to better meet the degree requirements of four-year schools and facilitate student transfer. The new curriculum requires a core degree and one science track.

Participants will leave with ideas for how to align their curriculum in the first two years with the requirements of 4-year universities in their respective discipline. Participants will also have the opportunity to ask questions about the curriculum change process.

To Access

WiFi:

Connect to SSID: **Hilton Honors Meeting**

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The splash page should come up, if not simply enter [www.google.com](http://www.google.com)  
Click on promo code and enter **VCCSPEER2018** and click connect.

\*code is not case sensitive



<p><b>Session Six</b>  <b>10:10 - 11:00 a.m.</b></p> <p><i>Room:</i>  <b>King George</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Transfer Engineering and Applied Technologies</b></p>	<p style="text-align: right;"><b>Bring your device!</b></p> <p><b>Improving Retention and Diversity via Spatial Visualization Training</b></p> <p><b>Kenny Grimes</b>, Associate Professor of Engineering &amp; Interim Program Head for Electronics Technology Tidewater - Virginia Beach</p> <p>Come experience spatial visualization (3D thinking) training that TCC has been using since 2011 to significantly improve student retention and diversity of both engineering and technology students.</p> <p>That attendees grasp the impact that spatial visualization (3D thinking) to student success in engineering and in applied technologies.</p> <p><b>NOTE:</b> Attendees should bring a fully charged laptop or tablet to participate in this interactive session.</p>
<p><b>Session Six</b>  <b>10:10 - 11:00 a.m.</b></p> <p><i>Room:</i>  <b>Buckingham</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>All</b></p>	<p><b>VCCS Professional Development Grants: Funding 101</b></p> <p><b>Joressia Beyer</b>, Associate Professor  John Tyler - Midlothian</p> <p><b>Nancy Harris</b>, VCCS Professional Development Programs Manager  VCCS System Office</p> <p>Learn the practical and essential aspects that are important in writing a competitive grant proposal for the Paul Lee Professional Developmental grant and workshop mini-grant.</p> <p>The goal of this session is to help VCCS faculty members obtain a better understanding of the Professional Development grants program, application process, and criteria used to evaluate proposals. Project eligibility, funding guidelines, and keys to writing a compelling and cohesive proposal will be discussed. Take advantage of this underutilized perk and find out what it takes to successfully pitch your project.</p>
<p><b>11:00 – 11:10 a.m.</b></p>	<p><b>10-minute session break</b></p>

Please take a few minutes to visit our exhibitors one last time and thank them for their generous sponsorship of this conference.

<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Henrico Ballroom A</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>All</b></p>	<p><b>Taming the OER Monster: Strategies for Course Redesign and Tools for Finding the Appropriate Resources</b></p> <p><b>Juville Dario-Becker</b>, Professor  Dabney S. Lancaster</p> <p><b>Kellie Aldi</b>, Assistant Professor  Germanna - Fredericksburg</p> <p><b>Martin Zahn</b>, Professor  Thomas Nelson - Williamsburg</p> <p>OER has transformed Science Courses without diminishing their quality. This presentation will inform participants how to redesign a course with existing platforms (Intellus) that integrates into any LMS such as Canvas, and how to find quality OER with the right tools and resources.</p>
<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Henrico Ballroom B</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Computer Science &amp; Cybersecurity</b></p>	<p><b>Energizing Student Resumes with Non-Traditional Approaches</b></p> <p><b>Melissa Stange</b>, Professor of Computer Science  Lord Fairfax - Middletown</p> <p><b>Henry Coffman</b>, Professor of Cybersecurity  Lord Fairfax - Middletown</p> <p>As John Holt said, "Learning is not the product of teaching. Learning is the product of the activity of learners." This session will discuss five primary ways to better prepare Cybersecurity and Computer Science students outside the classroom.</p> <p>The goal of this session is to share five primary ways to better prepare students for professional and transfer success outside of the classroom by giving them opportunities to apply what they have learned in the classroom and to show off their skills. To share first-hand feedback from students, faculty, and partners on this approach to energize a student's resume and provide a framework for other disciplines to emulate.</p>
<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Spotsylvania</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>All</b></p>	<p><b>Incorporating Drones into Varied Curriculum</b></p> <p><b>Julie Young</b>, Professor  Thomas Nelson - Hampton</p> <p>The use of drones in video and photography are well known, but drones are expanding in innovative ways into many industries. Learn how faculty are incorporating drones in varied curriculum, and the advantages for students learning.</p>

<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Hanover</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Mathematics</b></p>	<p><b>Navigating Precalculus Success</b></p> <p><b>Alison Moore</b>, Assistant Professor, Mathematics  Central Virginia</p> <p><b>Cindy Wallin</b>, Dean, Science, Math &amp; Engineering Division  Central Virginia</p> <p>According to VCCS data, only 54% of students are successful in precalculus. Come prepared to collaborate with us regarding best practices for increasing student success. Discussion will center around course structure, use of resources, and pedagogy.</p> <p>Current data regarding Precalculus success rates suggest a need for implementation of more active learning methodologies and best practices that will engage Millennials and Gen Z students in the mathematics classroom. Discussion will center around course structure, use of tutoring, additional resources, as well as pedagogy. VCCS data, indicative of the poor success rates, will be presented and participants will be encouraged to share ideas that may increase these success rates.</p>
<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Brunswick</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Biology</b></p>	<p><b>Assessment of Effectiveness of Active Learning Practices in On-Ground, Hybrid and Online A&amp;P Courses</b></p> <p><b>Ilse Silva-Krott</b>, Associate Instructor  Northern Virginia - Annandale</p> <p>We shall discuss active learning activities in A&amp;P courses (all modalities), and plan research to study student engagement and active learning. Research results will serve to improve Bio 141 and Bio 142 as we move to the use of OER.</p>
<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Chesterfield</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Chemistry</b></p>	<p><b>Student Learning Outcomes for Organic Chemistry</b></p> <p><b>Catherine Holroyd</b>, Professor of Chemistry  Tidewater - Virginia Beach</p> <p><b>Rhodora Snow</b>, Professor of Chemistry  John Tyler - Chester</p> <p>Course content lists for CHM 241/242 were collected from VCCS colleges. Consolidation gives a shorter list of measurable student learning outcomes. Lists will be discussed with the objective of creating uniform lists for use by all VCCS colleges.</p>

<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>York</b>  <b>Madison Building</b></p> <p><i>Intended Audience:</i>  <b>Engineering</b></p>	<p><b>A Comprehensive Design Project for AAS Electronics Education</b></p> <p><b>George Studtmann</b>, Engineering Instructor, Program Head Electronics  Virginia Western</p> <p>Training technicians for the workplace requires hands-on education. VWCC Electronics has created an innovative project using printed circuit boards. Based on NI software, students develop a product from schematic to soldered final product.</p> <p>The goal of this presentation is to educate technology, engineering, and science instructors in the benefits of a comprehensive active learning project. The review will illustrate the industry requirements for electricians and how they are implemented in the project. Application of the project principles can be made then to their own courses and learning requirements.</p>
<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>King William</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Biology</b></p>	<p><b>Designing Lab Manuals—Deep Thoughts</b></p> <p><b>Amanda Lentz-Ronning</b>, Professor  John Tyler - Chester</p> <p><b>Joressia Beyer</b>, Associate Professor  John Tyler - Midlothian</p> <p>We explore everything from using publisher lab manuals to writing your own from scratch. Topics include pros and cons, avoiding copyright issues for custom and OER labs, and best practices for communication, planning, and sharing of documents.</p> <p>Our goal is to discuss the options instructors have when choosing and designing a laboratory manual. While our experience is with biology and environmental science, our session is applicable to all laboratory sciences.</p>
<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Albemarle</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Physics</b></p>	<p><b>Physics Peer Group Meeting</b></p> <p><b>Elena Kuchina</b>, Professor of Physics  Thomas Nelson - Hampton</p> <p>Physics professors from VCCS colleges will discuss the plan for the next two years and report on achievements in the past two years. Professional development opportunities, conferences, internship availability for students will be introduced.</p>

<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Dinwiddie</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Anatomy &amp; Physiology</b></p>	<p><b>OER in A&amp;P</b></p> <p><b>Jeffrey Hollar</b>, Associate Professor of Biology  Lord Fairfax - Middletown</p> <p>This session focuses on reducing costs of learning materials for VCCS students; we will discuss current OER materials, lower cost resources, and the potential usefulness of a VCCS common resource.</p> <p>The goal of this session is to find new solutions to reduce costs for students taking BIO 141/142.</p>
<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>King George</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Mathematics</b></p>	<p><b>Computer-based Projects for Calculus, Linear Algebra, and Differential Equations</b></p> <p><b>Jason Lachniet</b>, Assistant Professor of Mathematics  Wytheville</p> <p>This hands-on session will present ideas for class projects in calculus, linear algebra, and differential equations using free open source software. A new open educational resource guidebook to GNU Octave will be shared with participants.</p> <p>The goal of this session is to provide ideas for computer-based projects in MTH 263, 264, 265, 266, and 267 that can be implemented using free, open source software, supported by free open educational resources.</p> <p><b>NOTE:</b> Attendees should bring a fully charged laptop or tablet to participate in this interactive session.</p>
<p><b>Session Seven</b>  <b>11:10 a.m. - 12:00 p.m.</b></p> <p><i>Room:</i>  <b>Buckingham</b>  <b>Jefferson Building</b></p> <p><i>Intended Audience:</i>  <b>Natural, Environmental, &amp; Horticultural Science</b></p>	<p><b>Birds of Virginia: Knowledge to Save Nature</b></p> <p><b>Ann Simpson</b>, Associate Professor  Lord Fairfax - Middletown</p> <p><b>Rob Simpson</b>, Professor  Lord Fairfax - Middletown</p> <p>Did you know 2018 is the “Year of the Bird” as well as the 100<sup>th</sup> anniversary of the Migratory Bird Treaty Act? Join us to share stories, learn easy identification tips, and celebrate our feathered friends that share our campuses and backyards.</p> <p>We protect what we know about. The more you know about birds and how to identify them, the more you can share with your students, friends, and colleagues about the importance of conservation of nature. Over the past ten years, birding has become America’s fastest growing recreational activity, beating out hiking, downhill skiing, and even walking. Ann and Rob Simpson will share some easy identification tips so you can learn to identify birds that you see and hear on your campus and</p>

Bring your device!

	in your backyard and help keep the knowledge of nature alive for future generations.
<b>12:00 p.m.</b>	<b>Conference Adjourns</b>
<b>Session Wrap-up Meeting</b> <b>12:10 - 1:00 p.m.</b>  <i>Room:</i> <b>Brunswick</b> <b>Madison Building</b>  <i>Intended Audience:</i> <b>Anatomy &amp; Physiology</b>	<b>A&amp;P Workgroup: Wrapping Up and Planning for the Future</b>  <b>Jeffrey Hollar</b> , Associate Professor of Biology Lord Fairfax - Middletown  This session will serve as a wrap-up from the previous sessions that dealt with communication with both two-year and four-year nursing schools, and BIO 141/142 course objectives. Action items will be adopted for our next A&P Workgroup meeting.  The goal of this session is to wrap-up the sessions from the 2016 Science Peer Group meeting, the A&P Workgroup meeting at JSRCC in November 2017 as well as the A&P specific sessions from the STEM Peer Group meeting and adopt plans for the future.
<b>Session Wrap-up Meeting</b> <b>12:10 - 1:00 p.m.</b>  <i>Room:</i> <b>Chesterfield</b> <b>Madison Building</b>  <i>Intended Audience:</i> <b>Chemistry</b>	<b>Chemistry Working Group Wrap-Up and Action Items</b>  <b>Sam Dillender</b> , Professor of Chemistry Lord Fairfax - Middletown  The Chemistry Working Group was formed in November of 2013. Sub-groups were formed and their work will be presented at the 2018 STEM Peer Group. This session will wrap-up the work to date from the sub-groups, and develop a plan for the next meeting.
<b>Session Wrap-up Meeting</b> <b>12:10 - 1:00 p.m.</b>  <i>Room:</i> <b>Henrico A</b> <b>Madison Building</b>  <i>Intended Audience:</i> <b>Mathematics</b>	<b>VMATYC Meeting</b>  <b>Wes Crumpler</b> , President-Elect, Virginia Mathematical Association of Two-Year Colleges Tidewater  Following the STEM Conference, VMATYC is having their annual business meeting. A buffet lunch from the hotel's restaurant will be provided.

## Thank you for participating in the VCCS' first STEM peer group conference

and special thanks to all our presenters. It's your proactive involvement that makes VCCS peer group program a success.

### **Very special thanks to our conference chairs and coordinators:**

- Anatomy & Physiology: **Jeff Hollar**, Lord Fairfax
- Biology: **Anne Allison**, Piedmont Virginia
- Chemistry: **Sam Dillender**, Lord Fairfax
- Engineering & Applied Technologies: **Jeff Levy**, New River
- Geology: **Callan Bentley**, Northern Virginia
- Microbiology: **Tim Rhoads**, Central Virginia
- Physics: **Elena Kuchina**, Thomas Nelson
- Technology: **Melissa Stange**, Lord Fairfax

Be on the lookout for an email inviting you to participate in an online evaluation of the conference. We value your input and hope to hear from you.

Plan now to attend

## **New Horizons 2019** **Building Bridges: Equity, Access and Opportunity**

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Hotel Roanoke & Conference Center, Roanoke, Virginia

*Registration opens soon!*