Science Peer Group Suggested Topics

*(Session suggestions from the May 2014 pre-event survey)*

Categories:

**PEDAGOGY**

**CURRENT ISSUES IN THE FIELD**

**RESEARCH IN THE FIELD**

**TECHNOLOGY USED IN TEACHING OR ACCOMPLISHING YOUR WORK**

**CAREER ADVANCEMENT AND LEADERSHIP**

**PERSONAL RENEWAL**

**PEDAGOGY and/or TOPICS RELATED TO PEDAGOGY**

- Best practices for a flipped classroom: When is it useful and when is it not?
- Using case studies, using the library in science class, and model syllabi
- Active learning incorporation and student collaboration on projects
- How to flip classrooms
- Motivating students to engage with Blackboard course materials before coming to class
- How to encourage students to read more
- Keeping students awake and interested in General Biology
- Teaching strategies for cell metabolism and botany
- Interesting plant labs
- Engaging students in metacognition activities to more fully engage
- Online instruction in the sciences
- How to keep students interested for 2.5 hours; activities for 'general' class
- Active learning, biological field work, and articulated learning outcomes for BIO 101-102
- Service learning; citizen science; flipped classroom techniques; differential instruction
- New ways of meeting the diverse needs of community college students
- Process Oriented Guided Inquiry Learning (POGIL) and other active learning techniques
- Writing in science ideas on how to grade Discussion Board, virtual histology
- New ways of teaching genetics problems or genetics labs
- Teaching success in a multicultural environment
The AAAS’s recommendations for undergraduate biology education reform "Vision and Change"

- Student Learning Outcomes
- Critical thinking applications, testing effectiveness, collaborative learning
- Examining Pedagogy for the Scientist: current methods and educational research
- New ideas for engaging students in lecture and labs
- Online chemistry labs and naming of chemistry courses
- Ideas for anatomy & physiology: demonstrations, active learning activities
- Quick courses (preferably face-to-face) to improve teaching
- Scholarship of teaching and learning
- Reaching out to underachieving students
- Competency-based learning
- Completion by design

CURRENT ISSUES IN THE FIELD and/or
TOPICS RELATED TO CURRENT ISSUES IN THE FIELD

- Green chemistry and sustainability
- Emerging technologies and concepts that should be incorporated into the classroom discussions.
- Art in science and the use of art in STEM education
- Student retention
- Implementing Articulated Learning Outcomes (ALOs) in biology
- Using civic engagement in science
- Open Educational Resources (OER) vs traditional textbooks and sources
- Student preparation before coming to class
- Online lecture labs
- Coordination with 4 year colleges/universities, transferability of online labs to 4 year institutions, ACS guidance on online labs
- Science accreditation
- Online/virtual labs vs. face-to-face labs
- Hot topics in any aspect of biology and how to incorporate into teaching situations or just to keep ourselves current
- Biotechnology; epigenetics; climate change
- Distance learning
- Use of food topics to create student interest in microbiology and chemistry
• Current events and how to use them for assignments
• Course content for biology
• Dealing with science denial
• Climate change, environmental ed, GMOs
• Online labs, especially A&P and chemistry: will four-year universities accept them?
• Gene manipulation
• Climate change, protection of the environment, stem cell research, growing organs from scratch
• Course-specific ALOs
• Global warming
• Stem Cell Research, blood replacement research, and secondary infections from hospitals
• Green chemistry, oil production, fracking, biochemistry, salaries, waste disposal, and new labeling requirements by the federal government
• Separating lecture and lab credits and renaming of chemistry courses (SCI vs. non-SCI)
• Organic chemistry and its acceptance at four-year schools
• New information on: communication between neurons, factors affecting action potential conduction velocity & amplitude

RESEARCH IN THE FIELD

• Genetics
• Ecology and environmental issues
• Field-based courses for students
• How to secure funding to conduct biological research
• Advancements in the scientific classroom
• Current research in A&P and applications to the classroom
• Biology or geoscience education
• How to enhance the sciences through career exploration
• Current events-research projects
• Phylogeny, microbial ecology, protistology
• Current topics in physiology
• How new trends in nursing affect how A&P is taught (or should be taught)
• First-hand examples of functional classroom research
• Green chemistry, waste remediation, elimination of drugs from drinking water, plastics synthesis
• Faculty discipline-based research
TECHNOLOGY USED IN TEACHING OR ACCOMPLISHING YOUR WORK
and/or TOPICS RELATED TO TECHNOLOGY

- Use of clickers
- Using Zotero online bibliography
- Open Educational Resources
- Lecture capture and how to incorporate while maintaining student attendance and participation
- Low cost chemistry equipment
- Blackboard use in the flipped classroom
- Use of smartphones/tablets in the classroom
- New technology
- Use of GIS in creating interactive science labs
- Creating hybrid classes and using Blackboard for assignments
- Microscopy and photography of live specimens
- Integrating citizen science into face-to-face classes via Blackboard
- Alternatives to traditional textbooks
- Student e-portfolios, using Google-based tools
- Best practices using Blackboard to teach online and hybrid science
- Distance learning, testing on Blackboard
- Tips on using technology to assess laboratory work
- Lab simulation resources
- Sources and uses of video clips and other visuals for PowerPoint presentations
- How using technology improves lectures, or does it?
- Use of lecture capture technology and mobile devices in classroom
- Flipping the classroom and video lecture capturing

CAREER ADVANCEMENT/LEADERSHIP and/or
TOPICS RELATED TO CAREER ADVANCEMENT/LEADERSHIP

- Unique challenges facing doctoral candidates in the hard sciences
- Professional advancement that is not administration
- How to apply for grants and grant availability beyond the VCCS
- Leadership training through VCCS committee involvement
- How to get ahead
- Programs that allow for earning PhDs while continuing to teach
- Community outreach
- Adjunct leader
- How to get a raise
- How to navigate new evaluation system
- Online graduate programs in science especially A&P and chemistry
- NSF grants
- Professional activities
- How to publish in Merlot or other sources

PERSONAL RENEWAL and/or TOPICS RELATED TO PERSONAL RENEWAL

- Time management and setting priorities
- Mindfulness in teaching and learning
- Fun in the classroom
- How to improve our own knowledge of advances in research and pedagogy
- Memberships in state organization (example: Virginia Academy of Science)
- Yoga to help relieves stress and renew physically
- Methods for self-relaxation and strategies for dealing with difficult people (faculty, staff, students)
- Remembering why you liked science in the first place
- Adjunct problems of office space, office hours, and general connectedness
- Stress management
- Getting back to nature and photography tips
- Interaction with other teachers
- What is personal renewal and what does it look like for the two-year faculty member?