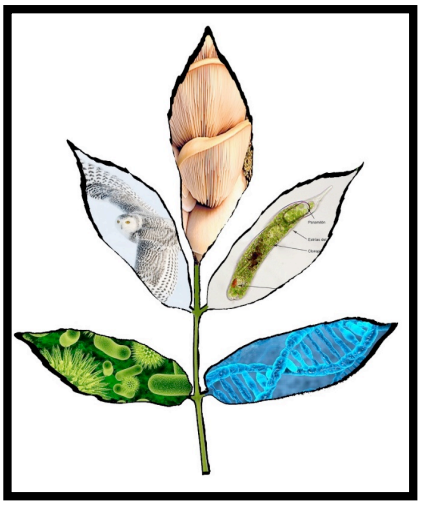
SUNY ORANGE

The Biology Department of SUNY Orange invites you to attend
The 34th Annual Conference of ESATYCB



Making Biology Relevant to our Students: Strategies for Engagement

April 15-17, 2016
Middletown, NY

ESTABLISHED IN 1982
ESATYCB
EMPIRE STATE ASSOCIATION OF TWO YEAR COLLEGE BIOLOGISTS

With Generous Support from Pearson Publishing, MiniPCR, The SUNY Orange Biology Department, The SUNY Orange Global Initiative, and The SUNY Orange Foundation

CONFERENCE SCHEDULE

Friday, April 15

5:00 - 7:00 pm	Registration and Welcome Reception
7:00 - 8:30	Featured Speaker: **"The New Communication Environment" -** Andrew C. Revkin, Pace University's Senior Fellow for Environmental Understanding *Sponsored by SUNY Orange Global Initiative: Water*

Saturday, April 16

7:30 - 8:45 am	Breakfast / Registration
8:45 - 9:00	Welcome and Opening Remarks
9:00 - 9:45	"**Evidence-Based Teaching: Just the Facts or Thinking Like Scientists?**" - Dr. Diane Ebert-May, Michigan State University
10:00 - 12:00	Workshop: "**Transforming Science Instruction Through the Use of Student-Centered Strategies: A Discussion of Novel Curricular Approaches" -** Dr. Murray Jensen, University of Minnesota
10:00 - 12:00	Workshop: "**Helping Faculty Put Case-Based Learning Into Practice in Their Biology Classrooms**" - Dr. William Cliff, Niagara University
12:00 - 1:30	Lunch, Vendors (Pearson Publishing, MiniPCR, and others) and Campus Tour
1:30 -2:15	"**Building Bridges in STEM: Expanding SUNY's Collaborations Among Community Colleges and Four-Year Institutions**" - Dr. Joseph Skrivanek, Purchase College, SUNY
1:30 -2:15	"**Ecological Literacy: Getting Diverse Students Involved**" - Dr. Alan R. Berkowitz, Cary Institute of Ecosystem Studies
2:30 - 5:00	Workshop/Laboratory: "**DNA Barcoding: Independent Research in the Classroom**" - Dr. Bruce Nash, Cold Spring Harbor Laboratory
2:30 -3:45	Workshop: "**Biology and Social Justice Case Studies: Scaffolding Learning for Authentic Assessment**" - Dr. Katayoun Chamany, Eugene Lang College, The New School, NY
4:00 - 5:30	Workshop: "**Science Education for New Civic Engagements and Responsibilities (SENCER)**" - Dr. Monica Devanas, Rutgers University
6:00 - 7:30	Buffet Dinner and Full Bar
7:30 - 8:30	Featured Speaker: "**Environmental Health Sciences/Toxicology as a Gateway to STEM**" Dr. Toby Rossman, Langone School of Medicine, NYU

Sunday, April 17

6:00 - 8:00 am	**Traditional Bird Walk,** Dr. Martin Borko, SUNY Orange
8:30-9:30	Breakfast
9:30 - 11:45	"**Strategies for Accurate Assessment of Student Learning**" A discussion with Dr. Victoria Ferrara, Director of Educational Assessment, Mercy College, NY
12:00 pm	Closing Remarks and Lunch

PRESENTATION SUMMARIES

Featured Speaker: ***Andrew C. Revkin*** - **The New Communication Environment** -Way back in the 20th century informing the public about environmental issues was mainly the task of journalists. But as newspapers and television recede into a noisy soup of online and social platforms, problems and opportunities abound. Traditional media are racing to retain authority and influence (and profits) even as locked-in audiences erode. But universities, nonprofit organizations, and companies can now reach large audiences directly, without waiting for a reporter to respond to a press release. Andy

Revkin, drawing on 30-plus years of prize-winning science reporting and a decade of teaching, describes a variety of ways to make environmental information matter in the digital age.

Diane Ebert-May **- Evidence-Based Teaching: Just the Facts or Thinking Like Scientists?-**In my talk, I will use specific examples drawn from research done on large introductory biology courses at Michigan State University, and will connect our research to two national frameworks that are guiding transformation in courses and curricula across institutions, Vision and Change in Undergraduate Biology Education (2009) and the Next Generation Science Standards (NGSS, 2012). These two reports and our recent paper (Cooper et al 2015) describe transformed courses as those that focus on a few core concepts rather than long lists of topics and emphasize scientific practices in which all students should become proficient. In our courses, we integrate research models into teaching approaches by bringing into our classrooms the core scientific practices desired for all students, such as working with data, building, testing, and refining models, developing arguments, and communicating and collaborating across disciplines. Our findings show that novice students who engage in sustained scientific practices grounded in core concepts show significant advancement toward more expert ways of thinking about biology compared to students in traditional classrooms focused on knowledge transfer. My seminar is designed to facilitate a data rich discussion related to assessment of courses and curricula. We will examine questions and approaches for curriculum assessment and I will share my students' learning data to stimulate questions and ideas among participants following the seminar.

Murray Jensen **- Transforming Science Instruction Through the Use of Student-Centered Strategies: A Discussion of Novel Curricular Approaches – WORKSHOP -**Although many pedagogical strategies exist to encourage more student-centered practice, introductory science courses tend to remain lecture-based and instructor-focused. This session will present a set of activities developed with the support of a two-year U.S. National Science Foundation grant that introduce the POGIL (Process Oriented Guided Inquiry Learning) approach to entry-level science courses. These modules are aimed at introducing students to fundamental concepts and promoting critical thinking skills in cooperative group settings. The need to focus on changing teacher practice and address challenges to implementing new approaches will also be discussed.

William Cliff **- Helping Faculty Put Case-Based Learning into Practice in their Biology Classrooms – WORKSHOP-**Case study analysis has been shown to be an effective means for learning in the biomedical sciences. This workshop will explore ways to incorporate case-based teaching and learning into life science courses. The presenter will discuss strategies for constructing case studies and evidence for student learning. A "backward" design approach will be offered as the preferred means to promote effective case-based learning. Guided by a planning template that identifies a series of issues and concerns central to the effective use of cases, participants will be encouraged to create a favorable strategy for managing case-based learning in the classroom. Participants will have the opportunity to use this approach to begin devising or re-engineering a case study of their own. A final discussion will provide opportunity for comparison of case-based learning methods, assessment tools, and student learning outcomes. Participants should expect to leave the workshop better equipped to develop approaches for integrating case-based teaching and learning into their own courses.

Joseph Skrivanek **- Building Bridges in STEM: Expanding SUNY's Collaborations among Community Colleges and Four-Year Institutions-**Over the last fifteen years, SUNY Purchase has implemented the Baccalaureate and Beyond Community College Mentoring Program. The goal of the program is to aid underrepresented minority, financially disadvantaged, and/or first generation community college students in completing a Bachelor's degree in a STEM discipline. The program has been recognized by receipt of the PAESMEM Award from President Obama. In 2010, SUNY took the first steps toward replicating this program within the 64-campus system. Over the past two and a half years, thirty SUNY institutions, both two- and four-year, have been involved in the project, impacting 25,000 STEM students. Activities include summer remediation programs, undergraduate research programs, and active coordination between two- and four-year SUNY faculty in order to increase articulation among programs. The presentation will include a brief overview of the Purchase Program, the progress that the program has been made thus far, and plans for the future of this exciting partnership.

Alan Berkowitz **- Ecological Literacy: Getting Diverse Students Involved-**This presentation will build on programs and resources for teachers in forest, stream, Hudson River and urban ecology, blending hands-on activities, data exploration, insights into student engagement and learning, and classroom applications.

Katayoun Chamany **- Biology and Social Justice Case Studies: Scaffolding Learning for Authentic Assessment – WORKSHOP-**Incorporating political and social context into the undergraduate biology curriculum is a powerful method for attracting and maintaining the interest of students who may otherwise shy away from science due to lack of immediate relevance or role models. This session will provide participants with a set of resources and tools to incorporate issues of social responsibility into the traditional biology curriculum. We will discuss ways to adapt this pedagogical approach for a variety of courses and institutions using a worksheet and small group work. Using examples, participants will learn how to scaffold assignments using a case study approach and how to apply this approach in assessment of student learning outcomes. Come learn how to make learning (and teaching) biology more meaningful and

interesting for all students! For more reading and resources on this subject see: http://www.lifescied.org/cgi/content/full/7/3/267

Bruce Nash **- DNA Barcoding: Independent Research in the Classroom – LABORATORY-**DNA carries a record of how organisms are related. Just as the unique pattern of bars in a universal product code (UPC) identifies each consumer product, a "DNA barcode" is a unique pattern of DNA sequence that identifies each living thing. Participants will learn how to engage their students with cutting-edge technology – PCR, DNA sequencing, and bioinformatics – to answer their own questions and potentially contribute to scientific initiatives that are creating a barcoding system for all species. Using the same tools and data as seasoned biologists you will learn about our experiments that guide students in: 1) sampling organisms and/or organic materials; 2) isolating DNA and amplifying barcoding regions; 3) submitting DNA to be sequenced; 4) processing and analyzing sequences; 5) using sequences as a starting point to study phylogenetics, diversity, and evolution. Hands-on experiments and participation in a global initiative will engage students and bring to life the nature of science as an ongoing, collaborative process.

Monica Devanas **- Science Education for New Civic Engagements and Responsibilities (SENCER) – WORKSHOP-**The NSF-funded SENCER project applies the science of learning to the learning of science, all to expand civic capacity. SENCER courses and programs connect science, technology, engineering, and mathematics content to critical local, national, and global challenges. Students and faculty report that the SENCER approach makes science more real, accessible, useful, and civically important. In this workshop, faculty will explore creative strategies and methods in their approaches, engaging students as well as integrating knowledge, skills, and values with real-world issues, problems, and themes. We will review the ideals and goals of SENCER, generate ideas for new modules/courses, and plan content, activities, and assessments in a model that connects and integrates knowledge with significant meaning and value in the classrooms of life science programs and beyond into the community.

<u>Featured Speaker</u>: ***Toby Rossman*** **- Environmental Health Sciences/Toxicology as a Gateway to STEM-** Since the early 1970's, there has been increasing interest in the effects of our environment on our health. Early on, the emphasis was on toxic substances in air, water, and food. More recently, the effect of climate change on our health has become a concern. To truly appreciate and understand these issues, people must be educated in STEM subjects. Students are often concerned about these issues, and scientists and instructors can use this concern as a vehicle to drive curricula that allow students to become more engaged in learning as they become more informed in the content. Issues related to environmental health and toxicology can be implemented in a wide variety of STEM disciplines, making them an ideal and highly relevant launching point for making topics both timely and relevant to students.

Victoria Ferrara - **Strategies for Accurate Assessment of Student Learning – DISCUSSION-**As we continue to develop our strategies to engage students in the classroom through innovative teaching methods, we are challenged to find ways to accurately assess the effectiveness of these efforts. This open discussion invites all conference participants to share their assessment philosophies and methods, to identify common concerns related to assessment, and to begin to form effective strategies for assessment that can accurately communicate student achievement to both colleagues and external organizations.

REGISTRATION FORM

Empire State Association of Two Year College Biologists (ESATYCB)
34th Annual Conference-*Hosted by SUNY Orange*

Conference Emphasis: Making Biology Relevant to our Students: Strategies for Engagement
Dates: April 15-17, 2016
Location: SUNY Orange, Rowley Center for Science and Engineering
Middletown, NY 10940
Information: 845-341-4178

Name: _____ School: _____
Please check events you plan to attend and enclose a check for the total amount.

Registration	Members	$75	_____
	Non-Members	$90	_____
	Student	$15	_____
	High School Teachers	$35	_____

Dining

Friday, April 15, 2016			
5:00-7:00 p.m.	Registration and Reception	*no cost*	_____
Saturday, April 16, 2016			
8:00 a.m.	Breakfast	$18	_____
12:00 p.m.	Lunch	$30	_____
6:00 p.m.	Dinner and Full Bar	$39	_____
Sunday, April 17, 2016			
9:00 a.m.	Breakfast	$18	_____
12:00 p.m.	Lunch	*no cost*	_____

Total food cost = $105

For ADA accommodations, please check and specify: ☐_____
If you are interested in serving on the Scholarship Committee, please check here: ☐
If you have any dietary restrictions, please check and specify: ☐ _____

2015-2016 Membership Dues (**if not already paid**)	$15	_____
Contribution to Scholarship Fund		_____
	TOTAL:	_____

WORKSHOP SIGN-UP
Morning
☐10:00-12:00 Transforming Science Instruction Through the Use of Student-Centered Strategies: A Discussion of Novel Curricular Approaches
☐10:00-12:00 Helping Faculty Put Case-Based Learning into Practice in their Biology Classrooms
Afternoon
☐2:30-5:30 DNA Barcoding: Independent Research in the Classroom (Laboratory)
☐2:30-3:45 Biology and Social Justice Case Studies: Scaffolding Learning for Authentic Assessment
☐4:00-5:30 Science Education for New Civic Engagements and Responsibilities (SENCER)

Please return the registration form and a check made payable to ESATYCB to:
Dave Pindel, *Treasurer*
Corning Community College
1 Academic Drive
Corning, NY 14830

ACCOMODATIONS
We have arranged for special conference rates at the **Courtyard by Marriot in Middletown, NY**.
24 Crystal Run Crossing, Middletown, New York, 10941. Phone: 1-845-695-0607
Cost per night: $ 124.00 + tax, includes Wi-Fi - Reserve by **March 15, 2016** for conference pricing.

EMPIRE STATE ASSOCIATION OF TWO YEAR COLLEGE BIOLOGISTS

2015-2016 MEMBERSHIP FORM

ESATYCB Annual Dues (tax deductible) are $15.00

Please send your check, made payable to ESATYCB, to:

David Pindel, Treasurer
Biology/Chemistry Division
Corning Community College
1 Academic Drive
Corning, NY 14830-3297

Name _____ Title _____

Department _____ Date _____

Institution _____

Street Address _____

City _____ State _____ Zip _____

Work Phone (_____) _____ Ext. _____ Fax _____

E-mail _____

Specific Interests:

General Biology ☐	Majors ☐	Non-majors ☐	Botany ☐
Anatomy & Physiology ☐	Human Biology ☐	Human Sexuality ☐	Field Biology ☐
Microbiology ☐	Parasitology ☐	Animal Behavior ☐	Biotechnology ☐
Genetics ☐	Embryology ☐	Evolution ☐	Aquatic Biology ☐
Ecology/Environmental ☐	Zoology ☐	Marine/Ocean. ☐	Other _____

Check appropriate line:

☐ Check enclosed for $15.00 for ESATYCB dues
☐ Additional amount of $_____ enclosed for Scholarship Fund
☐ I am interested in serving on the ESATYCB Executive Board
☐ I am willing to be the ESATYCB contact person on my campus (to distribute information)
☐ I am also a member of NABT (National Association of Biology Teachers)

****ESATYCB distributes its fall and spring newsletters in electronic format only. However, if you wish to receive a paper copy of the newsletters, please check here ☐.**

ESATYCB also receives $1.00 from NABT for all people who are members of both organizations. Just send your NABT dues directly to them, and they will automatically send a rebate to ESATYCB.

In order to help us maintain an accurate membership database, please check your mailing label for errors and let us know. Please be certain we have your complete address.

Visit us on the web: www.esatycb.org. To access the "Members Only" part of the website, click on "Membership" at the top and then "Login" just below this. The username is **member** and the password is **esatycb07**.