

# C2 SUMMIT FOR PEDAGOGICAL ADVANCEMENTS IN STEM

FRIDAY, OCTOBER 18, 2019 9 AM-4 PM RVCC EVENT CENTER



### SCHEDULE AT A GLANCE

	LOCATION		
	CONFERENCE 1	CONFERENCE 2	CONFERENCE 3
Welcome and Keynote 9:00-10:00	CONFERENCE A,B,C		
Concurrent Session 1 10:10-10:55	Learning Impact of Undergraduate STEM Research and Development Projects	Using a Historical Non- fiction Book to Learn About Microorganisms in an Introductory Microbiology Course	Developing a Modern Definition and Assessment Rubric for Scientific Reasoning (repeated later)
Concurrent Session 2 11:05-11:50	Role play as a tool for teaching and formative assessment in STEM	Using Cognitive Science to enhance STEM Pedagogy	Enriching Students' Learning Through Bioinformatics Research: Big Data Analysis using Biological Networks
Concurrent Session 3 12:00-12:45	STEM Learning in Virtual Reality (repeated later)	Extending STEM Learning Opportunities to Students Beyond the Classroom	Critical Play - Teaching Thinking Through Gaming
Lunch and Snapshots 12:45-2:20	CONFERENCE A,B,C		
Concurrent Session 4 2:20-3:05	STEM Learning in Virtual Reality	Scientific Research and Information Literacy	Interrupted Video Case Studies
Concurrent Session 5 3:15-4:00	Developing a Co- Curricular Component of your Academic Program: Student Experiences Outside the Classroom	Rocket Science with Kerbal Space Program	Developing a Modern Definition and Assessment Rubric for Scientific Reasoning

### SCHEDULE AT A GLANCE

LOCATION				
102	101	100		
Flipped Classroom for a STEM Program	Activating Precalculus and Calculus	Molecular CaseNet: Developing case studies using molecular representations for use in introductory chemistry , biology and biochemistry classes (90 minutes)		
Using Rubrics to Provide Feedback and Measure Student Learning Outcomes in the Lab	Blowin' Up my Pedagogy: Nonlinear Learning and the			
Using manipulatives in statistics	Flip (90 minutes)	Applying project management methods to the development of a MATLAB-based gain equalizer filter		
Bridging the Gap: An Integrated Science Research Program for Community College Students	Guided Discovery Lessons	Game up Your STEM Class! (90 minutes)		
My students want a quiz; how quizzes help Anatomy and Physiology students	and the Fully Engaged Student (90 minutes)			

**WELCOME & KEYNOTE SESSION SPEAKER:** 9:00 AM-10:00 AM

### CONCURRENT SESSION 1: 10:10 AM-10:55 AM



#### DR. CHRISTINE HARRINGTON



Dr. Christine Harrington is an Associate Professor in the Department of Educational Leadership at New Jersey City University. She worked at Middlesex County College for 18 years as a Professor of Psychology and Student Success, the Director of the Center for the Enrichment of Learning and Teaching, Coordinator of Student Success and a Counselor. She also served a 2-year term as the Executive Director of the Center for Student Success at the NJ Council of County Colleges. She is the author of Student Success in College: Doing What Works! 3rd edition, a researchbased text for the first-year seminar course that aligns to Guided Pathways. published by Cengage Learning. She also co-authored with Todd Zakrajsek Dynamic Lecturing: Research-

Based Strategies for Evidence-Based Practices, and Designing a Motivational Syllabus: Creating a Learning Path for Student Engagement with Melissa Thomas, both published by Stylus. She is a contributing author of Foundations for Critical Thinking. published by the National Resource Center on the First Year Experience and Transitions. Most recently, she coauthored, with Theresa Orosz, Why the First-Year Seminar Matters: Helping Students Choose and Stay on a Career Path. Dr. Harrington is frequently invited to present at conferences and at colleges and universities. Her keynote presentation is titled:

#### **DYNAMIC LECTURING**

Don't stop lecturing! Research shows that lecturing is one of the best ways to teach novice learners. Come explore how to maximize the effectiveness of your lecture by activating prior knowledge, bringing attention to the most important concepts, integrating brief opportunities to reflect and process information, effectively using multimedia, and incorporating retrieval practice opportunities. You'll walk away with several easy to implement strategies designed to increase learning.











### LEARNING IMPACT OF UNDERGRADUATE STEM RESEARCH AND DEVELOPMENT PROJECTS, LOCATION: CONF A

### William Brownlowe, Professor of Engineering, Montgomery County Community College

Learn how Engineering at Montgomery County Community College has been incorporating Research and Development into the broader learning experience by conducting STEM-based Undergraduate Research projects. Areas of R&D include Autonomous Quadrotor Design, Nanocoating of Space -Based Control Electronics, and Design and Fabrication of a Fuel Cell-Powered Ultralight Supermiler. Engage in a discussion on how such real-world deliverables-based projects enhance student engagement and learning.

### USING A HISTORICAL NON-FICTION BOOK TO LEARN ABOUT MICROORGANISMS IN AN INTRODUCTORY MICROBIOLOGY COURSE, LOCATION: CONF B

### Karla Fuller, Associate Professor, Guttman Community College - City University of New York

This presentation describes a nonfiction historical book intervention to increase engagement in a community college introductory microbiology course. "Microbe Hunters" (1926) is a nonfiction book that tells the story of microbe

discovery through compelling narrative. Students then used the content from lecture, lab and the book to re-create their own experiments. This presentation showcases the course organization, student work and provides a guide for using nonfiction books in a science course.

# FLIPPED CLASSROOM FOR A STEM PROGRAM, LOCATION: 102

### Mutasem Awwad, Assistant Professor, Networking, Raritan Valley Community College

The presentation will explore how a flipped classroom can increase attendance and comprehension of the subject matter in a STEM program. In addition, it will show how it enhances the learning experience. Students can consume lecture materials at their own pace and the teacher is present while students apply new knowledge. According to the Flipped learning Network, 71% of teachers who flipped their classes noticed improved grades, and 80% reported improved student attitudes as a result.

# ACTIVATING PRECALCULUS AND CALCULUS, LOCATION: 101

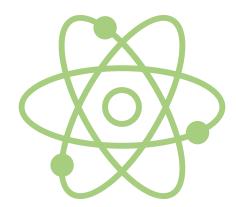
# Agnes Azzolino, Webmaster of mathnstuff.com. Middlesex CC

Use digital manipulatives, interactive webpages, spreadsheets, and Sketchpads to make math "alive" rather that static as a textbook. It's the same math, but this stuff MOVES.

# DEVELOPING A MODERN DEFINITION AND ASSESSMENT RUBRIC FOR SCIENTIFIC REASONING, LOCATION: CONF C

### M. Kris Bompadre, Biology Assistant Professor, Tracy Kaiser-Goebel, Director or Institutional Effectiveness, and James Bretz, Dean of STEM, Montgomery County Community College

AACU VALUE rubrics have been used nationwide for over a decade addressing outcomes, but none specifically tailored to science outcomes. The assessment team at MC3 has developed a rubric that evaluates a student based on being able to reason "scientifically". The assessment of a scientifically literate person not only demonstrates the ability to use the scientific method correctly, but goes beyond that by demonstrating authentic science inquiry, knowledge, and understanding.



MOLECULAR CASENET: DEVELOPING
CASE STUDIES USING MOLECULAR
REPRESENTATIONS FOR USE IN
INTRODUCTORY CHEMISTRY,
BIOLOGY AND BIOCHEMISTRY
CLASSES, LOCATION: 100, \*90
MINUTE SESSION, 10:10AM-11:40AM
\*\*PLEASE BRING A LAPTOP OR
OTHER DEVICE TO THIS WORKSHOP.
DESKTOP COMPUTERS WILL ALSO
BE AVAILABLE.\*\*

### Melanie Lenahan, Professor, Biology, Raritan Valley Community College and Shuchismita Dutta, Associate Research Professor, Rutgers University

Understanding "Structure-Function" relationships is foundational to learning biology, chemistry, and biochemistry. Molecular case studies can engage students in visual exploration and analysis of biomolecular structure and function. The workshop will introduce a hemoglobin case study, designed for introductory biology, chemistry, and biochemistry courses. In addition to immersion in the case, participants will learn to create new molecular cases, and also be invited to join Molecular CaseNet.

### ENRICHING STUDENTS' LEARNING THROUGH BIOINFORMATICS RESEARCH: BIG DATA ANALYSIS USING BIOLOGICAL NETWORKS, LOCATION: CONF C

### Phalguni Ghosh and Michael Ansonoff, Faculty, Middlesex County College

Undergraduate research is a highimpact educational tool that promotes student excellence, retention and critical thinking skills. We have initiated a bioinformatics research program at MCC to achieve this end. This talk will cover the methodology used to train the students to identify, interpret published scientific results, recreate the study and finally to use the skills developed in this process to design and conduct their own research project.

### USING RUBRICS TO PROVIDE FEEDBACK AND MEASURE STUDENT LEARNING OUTCOMES IN THE LAB, LOCATION: 102

### Pascal Meier, Instructor, Chemistry, Raritan Valley Community College

Providing students with effective feedback is critical for achieving student learning outcomes. This session will demonstrate how the implementation of a detailed lab report rubric gave students opportunities to improve and better understand the process of scientific discovery. With regular use, the lab report rubric resulted in increased learning outcome

competence and realistic student expectations.

### ROLE PLAY AS A TOOL FOR TEACHING AND FORMATIVE ASSESSMENT IN STEM, LOCATION: CONF A

# Madhavi Shah, Assistant professor of biology, Raritan Valley Community College

Role play is a powerful tool to help students visualize challenging concepts and assess their understanding of the subject matter. I will be sharing multiple role play activities that have been effective in my biology courses. This type of in-class learning increases student engagement, interaction, and motivation to overcome hurdles in your courses. In this interactive session you will partake in role play activities and brainstorm role play activity ideas for your courses. I will focus on strategies that can easily be applied to other STEM courses.

# USING COGNITIVE SCIENCE TO ENHANCE STEM PEDAGOGY, LOCATION: CONF B

### Dr. James Martiney and Dr. Melissa Luis, Assistant Professors, Middlesex County College

Cognitive sciences, particularly the role of working memory in learning, is an important tool available to surmount the challenges associated with learning STEM content. The goal of

this session is to provide participants with background information about Baddeley's Model of Working Memory and its relationship to learning. The working memory model will be linked to pedagogical strategies for use in the classroom to enhance STEM learning, such as relevancy, repetition, storytelling, and chunking.

BLOWIN' UP MY PEDAGOGY: NONLINEAR LEARNING AND THE FLIP, LOCATION: 101, \*90 MINUTE SESSION, 11:05AM-12:35PM

### David Walsh, Teacher and Adjunct, Rowan College at Burlington County

As an adjunct and high school chemistry teacher, I have learned how to incorporate flipped learning into all my classes. Building from the foundations of flipped learning, I have also been able to incorporate mind maps to make learning nonlinear.

3

### CONCURRENT SESSION 3: 12:00 PM -12:45 PM

EXPOSING STEM HONOR STUDENTS TO AUTHENTIC INDUSTRY PROJECT MANAGEMENT METHODS AS APPLIED TO AUDIO TECHNOLOGY PRODUCT DEVELOPMENT, LOCATION: 100

### Dimitrios Stroumbakis, Assistant Professor, Queensborough Community College

In any engineering technology curriculum, students must become adroit in applying engineering design principles as this is a basic requirement for industry hiring and future success. Engineering courses are commonly taught in silos of academic learning. We will present our case study of introducing project management techniques to enhance student experiential learning in the design of a software based, 3-Band gain equalizer filter using MATLAB.

### USING MANIPULATIVES IN STATISTICS, LOCATION: 102

### Douglas Smith, Adjunct, Rowan College of Burlington County

Using cards and coins, let's demonstrate statistical principles in a way that will introduce or reinforce what you're teaching in the statistics classroom.

#### CRITICAL PLAY - TEACHING THINKING THROUGH GAMING, LOCATION: CONF C

#### Eric Guadara, Instructor, IT, Game Design, County College of Morris

CCM has piloted a course that is now a requirement for all Game Development students - Critical Game Play. The course is designed to allow students to experience a wide variety of games before going on to learn the skills to develop their own projects. Building a common vernacular and base knowledge of a medium is common in other areas, including Fine Art, Film, and ELA. Students in this course primarily learn by playing, then reflecting through short writing pieces and presentations.

# STEM LEARNING IN VIRTUAL REALITY, LOCATION: CONF A

### Brian Olson, Assistant Professor, Dorothy Salinas, Assistant Professor, Caitlin Burns, Assistant Professor, County College of Morris

This presentation aims to address the versatility of Virtual Reality technology amongst a variety of STEM-related courses including Environmental Science, Anatomy and Physiology, and Forensic Science. Each Virtual Reality application is used to enhance student understanding through immersive, interactive experiences.

Demonstrations will be provided for applications actively being used in the classroom.

# EXTENDING STEM LEARNING OPPORTUNITIES TO STUDENTS BEYOND THE CLASSROOM, LOCATION: CONF B

### Emily Vandalovsky, Academic Department Chair, and Alan Eliscu, Bergen Community College

Our objective is to discuss how we strive to bring a real-world perspective to our academic environment. We have developed a significant partnership with IBM, under the Academic Initiative program, to encourage our students to explore a mainframe computing environment. We have also offered free mini-courses in areas outside the curriculum, summer research projects opportunities, participation in professional conferences, and day trips at IBM's headquarters.



### **SNAPSHOT SESSIONS:** 1:15 PM-2:10 PM

# **SNAP**

### LEARNING BY DOING - AUTHENTIC ENGINEERING EXPERIENCE

### Peter Stupak, Assistant Professor, Physics/Engineering, Raritan Valley Community College

The RVCC "Authentic Engineering Experience" Team-based projects tasks groups of 2 to 4 students to solve a real problem for a real customer in one semester. All project activity is hands-on and "live" — without classroom lectures or Labs. Principles and skills are experienced first-hand. The student Team members are treated as Professional Engineers, not as students. The focus is for the student team to learn by doing.

### TWO EYES ARE NOT BETTER THAN ONE

# Ellen Genovesi, Associate Professor of Biology, Mercer County Community College

75% of college students admit to cheating. This value has been consistent over the last 50 years; obviously what we are doing as instructors to try and prevent cheating is not working! Let's take a look at student attitudes towards what constitutes cheating and their reasons behind these actions. Online courses often present unique challenges. Learn about the infamous dissected sheep eyeball that showed up 4 times in an online Biology course and how we revised assignments to minimize cheating.

### CREATION OF A SCIENCE LEARNING CENTER

# Laura Blinderman, Professor of Biology, Mercer County Community College

The Science Learning Center was piloted in a small office in 2016. In a 2-month period, there were 58 visits! We secured funding, a larger room, and opened the MCCC SLC which provides students a drop-in environment to study models, microscopes, and specimen. Furniture is arranged for collaborative study. A mission statement was created, objectives identified, and student outcomes assessed. The SLC received ~ 1200 visits in 2018.

### PHOTOSYNTHESIS, ROLE PLAY TO LEARN

# Catarina Mata, Associate Professor, BMCC/CUNY

Photosynthesis is hard to teach. By role-playing the essential parts of major pathways the whole class can learn the hard to grasp topic, rather than just the few most motivated. Acting is not the most common way to teach science, but when all else fails, is worth a shot. Getting up and physically active appears to improve the attention span and thus learning. Role-playing has improved the whole class level of understanding of the material by at least 30%, and is fun too.

#### 7 WEEK ACCELERATED API AND APII

# Eric lannacone, Associate Professor, Raritan Valley Community College

The Anatomy & Physiology course sequence is a gateway prerequisite for many programs, such as Nursing, Physical and Occupational Therapy, and Exercise Science. A population of students expressed interested in completing both Anatomy and Physiology I and II in one semester. The department worked with the advising office to advertise the course and vet students for admission. A pilot ran in Spring 2019 with 18 students successfully completing the course sequence, and two cohorts are currently running this fall.

### WHICH STUDENTS SUCCEED IN HANDS-ON LEARNING?

### Peter Stupak, Assistant Professor, Physics/Engineering, Raritan Valley Community College

The RVCC "Authentic Engineering Experience" is a Team-based project that tasks groups of 2 to 4 students to solve a real problem for a real customer in one semester. All project activity is hands-on and "live" — without classroom lectures or Labs. A semi-quantitative analysis of 45 student participants during the past 2.5 years reveal that success in hands-on projects is poorly correlated to academic success and strongly correlated to self-motivation, focus on the goal, persistence, and hard work.

### STUDENT SUCCESS COURSE - A GUIDED PATHWAY

### Antonella Pompo, Professor of Engineering, Raritan Valley Community College

The RVCC Engineering Program has a Freshman Success Course which helps students to be successful in college, and graduate. The main course outcome is a personalized pathway through the bachelor degree, based on homework reflections, class activities and projects. Students who successfully embrace the challenge transfer to 4 year schools, graduate, and come back for the annual Alumni Reunion to share their stories and experiences with peers and current students.

### A NEW COURSE OF FINANCIAL SECURITY

### Yang Kim, Substitute Assistant Professor

Financial institutions are leading targets of cyber attacks. For cyber criminals, attacking banks offers multiple avenues for ill-gotten gains through extortion, theft, and fraud. Financial institutions are exposed to cyber risks due to their dependence on highly interconnected networks. Therefore, prevention of cyberattacks is a high priority for financial institutions, and a new financial security course is desirable due to increasing number of financial-related incidents.

#### **SNAPSHOT SESSIONS:** 1:15 PM-2:10 |

# OPEN EDUCATIONAL RESOURCE OPTION FOR A PHYSICS WORKBOOK

### Moe Tabanli, Instructor, Middlesex County Community College

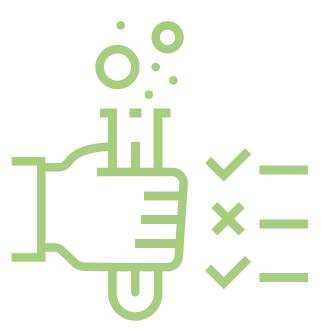
During a lecture, students spend considerable time on writing the problems on the board and the solution. As the classwork is presented as a workbook, students will have more time to think about the problems and to solve them. Most Physics books are similar in chapter order and content. However, there is a large price difference between older and newer edition. With this open educational resource, class requirements could be modified to accommodate older editions.

# CLASSROOM TEACHING DOES NOT WORK FOR THE STUDENTS WHO NEED IT THE MOST

### Peter Stupak, Assistant Professor, Physics/Engineering, Raritan Valley Community College

General Physics I and II are required courses for non-Engineering STEM students. A 5 year analysis reveals:

1) Good students perform well on all graded areas - exams, Labs, HW, etc., and less-good students perform less well in all the same areas, 2) Students perform to a given grade level and do not change within the semester – "A" students earn "A"s and "C" students earn "C"s, 3) 1-on-1 and small group teaching works – but it is difficult to attract the students who would benefit the most.



# SCIENTIFIC RESEARCH AND INFORMATION LITERACY, LOCATION: CONF B

#### Janelle Bitter, Instructor, and Alyssa Valenti, Associate Professor, Librarians

This presentation has two parts:

The first will outline a possible classroom activity or assignment that helps students understand differences and similarities of information presented in different formats. Scholarly research is often reported on by popular magazines and newspapers, but why is this done and how does it change the communication of information? Looking at the same information in multiple formats, students will think about the benefits and drawbacks of each presentation, and discuss the purpose of different sources reporting the same thing.

Including information literacy in your course doesn't have to be separated out or even a second thought. The second half of this presentation will demonstrate how one librarian and course instructor worked together to develop and deliver a course assignment using online tutorial software to embed information literacy skills into the course. Students were asked to read a research article and complete a series of questions directly

related to their learning. The questions are built from a learning object about scholarly research articles and tailored to the assigned specific article. At the conclusion of the assignment, students will be able to understand the components of a scholarly research article and how to decipher each part.

### INTERRUPTED VIDEO CASE STUDIES, LOCATION: CONF C

#### Derek Weber, Professor, Raritan Valley Community College

The introduction of case studies into the curriculum are shown to improve critical thinking skills by connecting theory to practice. This contextual approach allows students to apply abstract theories to one's own life and/ or real-world scenarios. In interrupted case studies, students are tasked with answering questions as they proceed through a case, which allows for effective assessment by both the instructor and the student themselves. Recreating this approach in an online environment is challenging. How can one ensure students have analyzed and interpreted results before progressing through the rest of the case? How can an instructor address student misconceptions in real-time in an asynchronous environment? In this session, we will discuss the design and implementation of interrupted video case studies to best navigate these challenges.

### CONCURRENT SESSION 4: 2:20 PM-3:05 PM

STEM LEARNING IN VIRTUAL REALITY, LOCATION: CONF A

Brian Olson, Assistant Professor, Dorothy Salinas, Associate Professor, Caitlin Burns, Assistant Professor, County College of Morris

This presentation aims to address the versatility of Virtual Reality technology amongst a variety of STEM-related courses including Environmental Science, Anatomy and Physiology, and Forensic Science. Each Virtual Reality application is used to enhance student understanding through immersive, interactive experiences. Demonstrations will be provided for applications actively being used in the classroom.

# BRIDGING THE GAP: AN INTEGRATED SCIENCE RESEARCH PROGRAM FOR COMMUNITY COLLEGE STUDENTS, LOCATION: 102

### Helen Tanzini, Professor of Chemistry and Diane Hilker, Professor of Biology, Mercer County Community College

This session will highlight a unique program where biology and chemistry students from Mercer County Community College have participated in cutting-edge research under the supervision of local scientists. This is a model for developing a research partnership between community colleges and 4 year institutions and industrial partners. The collaboration with research colleagues has led to

job opportunities, internships, and publication in reputable scientific journals for the students.

### GAME UP YOUR STEM CLASS!, LOCATION: 100

\*90 MINUTE SESSION, 2:20PM-3:50PM

### Kathleen Offenholley, Professor of Mathematics, Borough of Manhattan Community College

Get your students to want to engage in group work and problem solving! Adding games to your STEM class can help students visualize and understand a topic more deeply, as well as engaging them through positive emotions to break down anxiety and passivity. In this highly interactive, hands-on workshop, participants will play several (non-digital) games and will modify them for their own classrooms. They will then collaborate to create their own classroom games, using special game-creation cards.

# GUIDED DISCOVERY LESSONS AND THE FULLY ENGAGED STUDENT, LOCATION: 101, \*90 MINUTE SESSION, 2:20PM-3:50PM:

### Pete Barra, Adjunct Professor of Chemistry, Raritan Valley Community College

In this hands-on workshop you will participate in a series of lessons / activities to see and experience full student engagement in action while incorporating real time assessment

of student progress in the lesson.
All team members will analyze data, recognize patterns and develop explanations for those patterns based on a series of carefully worded challenges or prompts. These types of lessons will motivate your students to move through your course curriculum, teach them how to function as a member of a team, to become more frustration tolerant and not give up at the first sign of resistance. I will review the origins of each lesson and ways

to modify each lesson for your target audience and subject area. Time will be left for extensive questioning and to begin to adapt each lesson to your particular circumstance. Demonstrated lessons may include competition-based lessons, using checksums, A/B sticks, five questions and five questions only and more depending on the interests of the participants. While the lessons are science-based (first semester chemistry) they are adaptable to ALL subject areas.

CONCURRENT SESSION 5: 3:15 PM-4:00 PM

DEVELOPING A CO-CURRICULAR COMPONENT OF YOUR ACADEMIC PROGRAM: STUDENT EXPERIENCES OUTSIDE THE CLASSROOM, LOCATION: CONF A

### Emilie Stander and Jay Kelly, Associate Professors, Environmental Science, Raritan Valley Community College

Faculty describe programs developed for environmental science majors focusing on experiences outside the classroom. Students apply their classroom knowledge to real world environmental issues through internships, service learning, and research while building marketable skills in the environmental field, providing service to the local community, and contributing to research. We will describe how we built on these efforts to launch the RVCC Center for Environmental Studies.

# ROCKET SCIENCE WITH KERBAL SPACE PROGRAM, CONF B

### Christopher S. Vaughen, Assistant Professor of Mathematics, Montgomery County Community College

Kerbal Space Program is a video game that accurately models Newtonian physics. We will examine the rocket equation, orbital and escape velocity, kinetic and potential energy, and great circle navigation and how these can be illustrated in the game. I also introduce Wolfram Programming Lab (a free online resource) as a tool to analyze the mathematics involved. I will be highlighting elements of these topics that could be utilized as a teaching tool at any level of mathematics.

4

# MY STUDENTS WANT A QUIZ; HOW QUIZZES HELP ANATOMY AND PHYSIOLOGY STUDENTS, LOCATION: 102

### Ahmed Katsha, Assistant Professor, Raritan Valley Community College

While quizzes are widely seen as a tool of assessment, they can be a teaching tool as well. Through continuous quizzing in Anatomy and Physiology labs, students improved their lab exam grades. Additionally, the group in general got higher grades in comparison with a control group. The data suggest that quizzes, if introduced in a way that mimic the exam, can prepare students for exams and increase their retention.



### DEVELOPING A MODERN DEFINITION AND ASSESSMENT RUBRIC FOR SCIENTIFIC REASONING, LOCATION: CONF C

### M. Kris Bompadre, Biology Assistant Professor, Tracy Kaiser-Goebel, Director or Institutional Effectiveness, and James Bretz, Dean of STEM, Montgomery County Community College

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#### **ANY QUESTIONS?**

Contact Marianne Baricevic at marianne.baricevic@raritanval.edu or call 908-526-1200 X8535