

12:30 PM – 12:45 PM Welcome from CSM CMUE

12:45 PM – 2:15 PM Keynote session

The baby and the bathwater: What we should keep from our pandemic teaching.
John Dawson, College of Biological Sciences, University of Guelph, Guelph, ON

2:15 PM – 2:30 PM Refreshment Break

2:30 PM – 4:00 PM MicroFOME presentations

2:30 PM: Flexible grading schemes in large courses by **Sanja Hinic-Frlog**, Biology,
University of Toronto Mississauga, Mississauga, ON

2:45 PM: Community-based learning to promote engagement in a classroom setting
utilizing technology to facilitate greater understanding through the use of "Snap"
Presentations by **Ryan Suleman**, Biology Department, Camosun College, Victoria, BC

3:00 PM: Discussions on equity, diversity, and inclusivity in introductory genetics by
Laura J. Schnell, Ashton N. Sies and Maria C. Davis, Department of Biology, University
of Regina, Regina, SK

3:15 PM: "Speed dating" test review session: a method to increase student involvement
and active learning by **Anni Moore**, Department of Natural and Mathematical Sciences,
Morningside University, Sioux City, IA, USA

3:30 PM: From long lost archive to open educational resource; creating a digital library
from 50 years of teaching slides by **Joe Rubin**, Department of Veterinary Microbiology,
University of Saskatchewan, Saskatoon, SK

3:45 PM: Affirmative Action in Microbiology Education – Reflections from the top
ranked University of Pakistan by **Rabaab Zahra**, Department of Microbiology, Quaid-i-
Azam University (QAU), Islamabad, Pakistan

4:00 PM – 4:15 PM: Closing remarks from CSM CMUE

Keynote session description:

The baby and the bathwater: What we should keep from our pandemic teaching.

John Dawson, Associate Dean Academic, College of Biological Science and Professor of Molecular and Cellular Biology, University of Guelph

Fully-remote, half-remote – how much remote have you been teaching? Come join us as we discuss a Pathway for Remote Teaching developed at the COESP in Guelph with direct input from students. We will continue those conversations you've likely been having around who University is for, how courses are delivered, and how assessment works in the remote teaching/information age. As we move forward, what practices will we keep, and how will we address other major issues around access and equity in the classroom? We'll discuss the balancing act of humanizing our classes while adapting more sophisticated education technology. We may not have all the answers, but this is a chance for us to talk about the issues as a community so we can move ahead with solutions together.

MicroFOME abstracts:

Flexible grading schemes in large courses

Sanja Hinic-Frlog, Associate Professor-Teaching Stream, University of Toronto Mississauga

Abstract: I have been incorporating a flexible grading scheme in my large courses (500 students). Students 'choose-their-own-adventure' grading scheme and I use their grading scheme choices to finalize their grades at the end of the semester. I always have a standard, mainstream option available, but in addition, students can choose alternative options. Some examples of alternative assessments are replacing weekly lecture reflection worksheets with a single course reflection at the end of the class, skipping weekly quizzes and adding their weight to term tests, or replacing one of the tests with an assignment. In short, students can make their grading choices based on how much time they can and want to commit to these courses weekly. I hope that by providing choices, students' sense of autonomy can increase, which may lead to students being more engaged and invested in their learning. Because these course structures and grading choices can be complex, students spend the entire first week of classes thinking about learning outcomes, course structure, and grading schemes. Students are also invited to revisit their grading scheme choices mid-way through the term. This re-assessment of grading scheme choices gives students another chance to reflect on whether they feel that they engaged with the content in the most relatable way and effectively demonstrated their learning.

Community-based learning to promote engagement in a classroom setting utilizing technology to facilitate greater understanding through the use of "Snap" Presentations

Ryan Suleman, Instructor, Biology Department, Camosun College

The focus of my talk will be presenting on engagement students in the field of microbiology with community-based projects to foster better understanding. The method that I will be teaching on will describe how to best engage students and encompass a wider array of students in discussion. The method being used starts with engaging the students by teaching the material in lecture style and then incorporating "snap" or mini presentations for the students to present on the material. This incorporates technology, the lecture material and classmate

engagement. By facilitating this style of learning and indigenizing the way that I teach to form more community-based classroom discussions. It fosters a different style of in-depth learning that allows the students to be engaged in material and bring in real life concepts. Within the lecture material I used, I would incorporate a pathogenesis lecture and then assign students or have them pick their own pathogen to study. The aspect of short amount of time allows the students to feel engaged and improve their recall by incorporating what was just lectured into a quick fun activity. At the end of allotted time, the students are then asked to present their “snap” presentations on power point. This allows the students to gain a sense of confidence speaking, practice and engage with the topic in a fun and active way. This more open dialogue form of teaching has worked amazing for me in my lectures and allowed me to continue to facilitate excellent learning with my students.

Discussions on equity, diversity, and inclusivity in introductory genetics

Laura J. Schnell, Undergraduate Teaching Assistant, University of Regina

Ashton N. Sies, Graduate Teaching Assistant, University of Regina

Maria C. Davis, Laboratory Instructor, University of Regina

Introductory genetics courses often cover topics related to race, disability, and gender identity. Improper instruction of these topics can lead to an increased risk of content-related microaggressions. To help students learn about and avoid such microaggressions, a discussion forum was created in a 200 level genetics course. The forum required students to reflect on prompts (provided by the instructor) following assigned readings on three topics (1. gender identity, 2. disability, 3. pseudoscientific racism). Students were encouraged to perform self-directed literature searches to build upon the analysis in the assigned reading. Students were guided in literature search and iterative writing techniques during synchronous sessions, and through extensive feedback on their forum posts. Forum participation by students was assessed in four areas: student prompt selection pattern, themes in student forum posts, common themes in grading feedback, and grade averages to assess how student analysis and writing improved through each segment of the forum. In this presentation, we will discuss our analyses and suggest ideas to deepen student engagement with these topics via discussion forums.

“Speed dating” test review session: a method to increase student involvement and active learning

Anni Moore, Associate Professor, Morningside University

Students often benefit from test review sessions, especially in lower-level courses where these sessions can serve as an important scaffolding method. However, the traditional Q and A review session allows many students to stay passive. In order to assure active participation of all students, we have developed a “speed dating” review game. In this game, the instructor first prepares a set of short answer questions that cover the material, and print two sets of the questions, labeling the sets A and B. For the game, the students are paired up, and each pair is given the same initial question set. They will have 3-5 minutes to find the correct answer with a brief explanation. When all groups have found the answer, one person in the group (ex. all B’s) will rotate to the A person in the next group. Person A will ask their group’s question from person B, who will then have 30-60 seconds to answer it. If person B does not know the answer,

person A is prepared to explain the answer. Then person B will ask the question that person A will have to answer. After that, all B's will rotate to the next group. This process is repeated until person B gets back to their original group. In this game, all participants will have a chance to review all questions as well as practice explaining the concepts to others.

From long lost archive to open educational resource; creating a digital library from 50 years of teaching slides

Joe Rubin, Department of Veterinary Microbiology, University of Saskatchewan

While performing department housekeeping, an archival collection of several thousand teaching slides dating from the 1960s slides was found. This collection was comprised of pure cultures and cytological and histological specimens featuring important pathogens. Organisms including a wide variety of rarely imaged microbes (few creative commons licensed photos), pure cultures of BSL-3 pathogens (*Bacillus anthracis*, *Brucella abortus* and dimorphic fungi) and veterinary specific pathogens for which high quality microscopic images are unavailable, were represented. In early 2022, digital photos of slides were captured, annotated and uploaded to a Flickr account (put in link to Flickr page) under a creative commons license (CC-BY-NC 4.0). This licensing model may particularly benefit individuals at institutions in developing countries, whose access to high quality content may be limited by paywalls. Publishing open resources contributes to the UN Sustainable Development Goal #4 (Quality Education) which includes improving access to post-secondary opportunities. A total of 350 photos were uploaded, and through Flickr's analytic functions I was able to document nearly 50,000 views in the 4 months following their publication. These metrics allow the impact of each learning item to be enumerated, demonstrating the benefit of the substantial effort required to publish these resources. This exercise unlocked substantial value from an under-utilized collection which was neglected for at least 10-years and highlighted the advantage of re-visiting existing archival materials before creating content de novo.

Affirmative Action in Microbiology Education – Reflections from the top ranked University of Pakistan

Rabaab Zahra, Professor, Department of Microbiology, Quaid-i-Azam University (QAU)

Being a faculty member in a Microbiology program, my primary goal is to train our students for life beyond their varsity and apply their acquired knowledge in the field. An affirmative action policy is in place at QAU to increase educational opportunities for students from rural areas. Another advantage of this policy is that the students from remote/rural areas bring valuable insights into current and future microbiological research challenges specific to their region. Many of these students return to their areas and contribute to the well-being of their communities. However, the major drawback of affirmative action stems from the polarized standards of schooling in urban and rural areas, resulting in a significant knowledge gap between students of various backgrounds. Most students from the urban centres are noticeably better in comprehending the curriculum while the students from rural regions struggle. As a result, overall quality of education can suffer as majority of students face difficulty in clearing academic assessments and evaluations criteria. To address this challenge, I have incorporated representative pedagogy, wherein students are given a choice regarding the internal evaluation, decided by consensus. I will share some examples of the activities (group

presentations, reports, models, video responses) taken using this strategy. These activities were also designed to encourage students for group/self-study. In some cases, the students displayed their groups' work which gave them a sense of achievement. In conclusion, as a result of affirmative action varied methodologies need to be integrated into the curriculum to accommodate diverse students.