

## **Edvantage Science and Math Institute**

October 20, 2023

St Thomas More Collegiate

**Keynote:** (9:00 am – 10:00 am)

### **Bridging the Gaps – *Using the Science of Learning to support student success.***

Dr. Leanne Ramer, senior lecturer at Simon Fraser University Faculty of Biomedical Physiology and Kinesiology invites you to consider what success looks like in your classroom. In this conversation she will examine emerging issues science and math students navigate as they transition from high school to post-secondary education. She will offer practical suggestions around how we might address these issues by applying current research on teaching and learning.

**Break:** (10:00 am – 10:30 am)

**Sessions:** (10:30 am – 12:00 pm)

### **Chemistry 11/12: Come Mark with Us**

In the past, BC schools administered Provincial exams for grade 12 students that were marked by teachers at onsite locations in Victoria and Vancouver. Due to costs the exams were discontinued. Teachers that marked these exams often remarked it was the best Pro-D they ever had. This statement was based on several factors:

1. The Pro-D activity occurred in the summer when they weren't working.
2. The Pro-D activity covered all expenses.
3. During the marking, teachers had time to interact with colleagues.
4. During the marking, teachers had time to examine, discuss and reflect on their practice in the context of what they taught using provincial exam questions.
5. Every teacher learned what BC students, collectively, were both proficient and struggling with in terms of content and process. This information proved to be invaluable as soon as teachers returned to the classroom after each marking session.

The Come Assess with Us session is a workshop session that brings back the opportunity for teachers to examine, discuss and reflect on their practice by marking curriculum related written response test questions.

Presented by: The Edvantage Chemistry Author Team

### **Physics 11/12: A New Physics Program for BC Science Physics 11 and 12**

We have developed a new teaching resource package for Physics 11 and Physics 12, including worktexts and an online resource package published through Edvantage Interactive. Our program very intentionally scaffolds both skill and content from the ground up within well-organized chapters. If you want books for your classroom that lay a clear path for skill-building and concept development for both the student and teacher, this is your resource.

Presented by: Dr. William FitzGerald – Author and Physics teacher at St. Margaret's School – Victoria

## **Biology 11/12: Can We Build a Program with Open-Source Materials?**

Most BC Biology teachers have created their own programs over the years using a variety of resources. During the pandemic this may or may not have worked in their teaching context, but it did create significant stress and time pressure. Is there a solution to finding more time for Biology teachers by creating a custom, reasonably priced Biology program using open-source materials? In this session we will explore the options to create and pilot a BC specific program using OpenStax open-source materials. Come be part of this exciting new project.

Presented by: Lionel Sandner – Edvantage Interactive

## **Calculus 12 – A Worktext that Makes Formative Assessment Easy**

Edvantage Interactive is proud to announce the launch of a new BC Calculus 12 Worktext. This resource was specifically created for the BC Calculus 12 curriculum. It was developed by BC teachers for BC teachers. Please join lead author, Dr. Bruce McAskill, as he takes you through the worktext design. The workshop will focus on how the resource design and supporting digital resources make student formative assessment easy to do and even easier to understand the results. Digital supports include: an e-reader version of the worktext; an online solution manual; Moodle-based quizzes; and an online tool that helps students (and teachers) track their progress.

Presented by: Dr. Bruce McAskill - Lead Edvantage Math Author

## **Keynote Follow-up – Emerging Trends in Cognitive Science**

Join Dr. Leanne Ramer in an informal discussion around key ideas presented in her keynote presentation. During this session she will go further into the issues around teaching and learning in secondary math and science and the challenges students are encountering as they transition from secondary to post-secondary education.

Presented by: Dr. Leanne Ramer - Senior lecturer at Simon Fraser University Faculty of Faculty of Biomedical Physiology and Kinesiology

## **Middle School and Junior Science – Using Thinking Routines and Literacy Strategies in Science as Formative Assessment**

Discover the transformative potential of connecting science activities, thinking routines and literacy strategies to uncover misconceptions, activate prior knowledge, and engage students in sense making. In the first part of the session, we'll explore five critical thinking routines (observe & wonder, predict & infer, sort & categorize, and analyze, interpret & analyze, conclude & apply) that help students make sense of science phenomena and challenges. Following this, we'll test out several hands-on experiences paired with literacy strategies designed to support these thinking routines and foster systematic, critical thinking. You'll leave equipped with tools and strategies to support learning in your own classroom.

Presented by: Sandra Mirabelli – Author and Sessional Instructor at Brock University, Faculty of Education

**Lunch** – (12:00 pm to 12:45 pm)