

November Lectures

FRIDAY 24 NOVEMBER 2023

Registration from 8.15 am

Sessions 9 - 3.30

Chemistry Building, University of Melbourne

The **Chemistry Education Association**, in conjunction with the **University of Melbourne's School of Chemistry** presents a professional development day for Chemistry teachers. The morning lectures highlight some exciting recent developments and applications of Chemistry. The workshops are hands-on activities that you can take into your classroom. It is a great day to network with teaching colleagues and to enhance your chemistry knowledge.

Cost: \$170 full or \$100 students/retirees (GST inc) includes notes, morning tea and lunch.

To book: <https://www.cea.asn.au/events-and-programs>

MORNING SESSIONS – ATTENDED BY ALL

How to drug test a horse: the spectroscopy and chromatography of performance enhancing drugs

Rohan Steel, Racing Analytical Services Limited.

Enzymes as protein-based catalysts

Megan Maher, School of Chemistry, University of Melbourne

WORKSHOPS – CHOOSE 1. FULL DETAILS ARE ON PAGE 2.

1. Structural analysis: Using spectroscopy to determine the structure of organic compounds
2. How to write developmental rubrics to support your students' learning
3. Low-cost solution calorimetry and equilibrium experiments
4. Smartphone Spectroscopy

AFTERNOON WORKSHOPS – ATTENDED BY ALL

Sustainable Sustainability SACs: Designing an adaptable assessment task for the new Unit 3 & 4 VCE Chemistry SAC type

Lisa Chiavaroli (Monash University), and Karen Daniels (Emmaus College)

Ideas for creating Unit 3 and 4 Chemistry SACs for the new study design

Louise Lennard (St. Leonard's College; Lorikeet Science).

Choose from one of the following hands-on workshops

Workshop 1: [Classroom Workshop]

Structural analysis: Using spectroscopy to determine the structure of organic compounds

Would you like to know a little bit more about organic structural analysis? Like to know how to analyse more complex ^1H NMR splitting? Participants in this workshop will revise the concepts of spectroscopy to determine the structure of simple organic compounds. We will consider how to provide this information to their students in a practical way and use readily available software to enhance their experience.

Workshop 2: [Classroom Workshop]

How to write developmental rubrics to support your students' learning

Todd Chamberlain, Wantirna College

The focus of this workshop is on developing understanding of developmental rubrics, how they can be used to support the collection of evidence of student understanding and how the process of developing a developmental rubric. This workshop will include an example developmental rubric for Unit 3 area of study 1, an examination of its strengths and weaknesses and how it was developed based on the new study design. Following this, teachers will work in teams to begin looking at Unit 3 area of study 2 and developing a section of the developmental rubric before sharing to the collective.

Workshop 3: [Lab Workshop]

Low-cost solution calorimetry and equilibrium experiments

The current VCE Chemistry curriculum requires that students utilise a range of disciplinary literacies to effectively make meaning of, and communicate scientific ideas. The development and refinement of these skills needs to be explicitly taught, not only during VCE but also in the years preceding it. Although many science teachers use these disciplinary literacies in their daily practice, they often don't acquire the pedagogies to explicitly teach these skills to their students. This workshop aims to equip teachers with a range of strategies to support effective teaching and learning to help navigate the increasing literacy demands of the VCE Chemistry curriculum.

Workshop 4: [Lab Workshop]

Smartphone Spectroscopy

This is a hands-on activity for quantitative, visible spectroscopy that will help you run in-school practical learning for students in VCE Chemistry Unit 2. All that is required is with a smartphone, some coloured standard solutions, a cuvette and cardboard box. In this very low-cost and highly open-ended activity, participants will construct and optimise their own instrument and see ways that this approach can overcome the "mysterious white box" of regular laboratory UV-visible instruments.

To register, go to <https://www.cea.asn.au/events-and-programs>

Payment may be made by credit card or direct deposit.

A purchase order number is required to generate a tax invoice for payment by a school.

For inquiries: mmoylan@unimelb.edu.au or (03) 8344 6465.