VCE Biology Teachers’ Conference 2017

Wednesday 15 February 2017 at La Trobe University, Bundoora

The VCE Biology Teachers’ Conference is an approved professional learning activity.

Conference Program

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<tr>
<td>8:00am</td>
<td>Registration opens</td>
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<tr>
<td>8:40am - 8.45am</td>
<td>Welcome by STAV President – Soula Bennett</td>
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<td>8:45am - 9:45am</td>
<td>Keynote Address – Prof. Andrew Hill, La Trobe University</td>
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<td>9:45am - 10:15am</td>
<td>Morning Tea/Displays</td>
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<td>10:20am - 11:20am</td>
<td>Workshops - Session A</td>
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<td>11:30am - 12:30pm</td>
<td>Workshops - Session B</td>
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<td>12:30pm - 1:15pm</td>
<td>Lunch/Displays Union Hall</td>
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<td>1:30pm - 2:30pm</td>
<td>VCAA 2017 update</td>
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<td>2:35pm - 3:35pm</td>
<td>Workshops - Session C</td>
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<td>3:35pm</td>
<td>Conference ends</td>
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Registration information, La Trobe University Map and all conference information is available on the Science Victoria website: [www.sciencevictoria.com.au/conferences.html](http://www.sciencevictoria.com.au/conferences.html)
VCE Biology Teachers’ Conference 2017

Keynote Address
8:45am – 9:45am
Diseases of the ageing brain - when proteins go wrong!
Professor Andrew Hill, La Trobe University

Professor Hill is Head of the Department of Biochemistry and Genetics at La Trobe University and leads a laboratory in the La Trobe Institute for Molecular Science that focuses on understanding what happens in the brains of people with diseases such as Alzheimer’s and Parkinson’s Disease. He undertook his PhD at Imperial College London where he worked on BSE (‘mad cow’ disease) and moved to Australia in 2000 to set up his own laboratory. He has published over 150 papers, works with researchers all over the world, and has mentored 15 PhD students to completion over the last 10 years.

Morning Tea/Displays
9:45am to 10:15am

Session A
10:20am – 11:20am

A1 Assessment for Learning in Biology
Tori Shaw, Carey Baptist Grammar
This presentation briefly looks at what Assessment for Learning is and then focuses on using the AFL tools in the Biology classroom.
Suitability: ALL
Repeated in B1

A2 VCE Units 3&4 Biology: Addressing the new Study Design
Richard Allan & Tracey Greenwood, Biozone Learning Media Australia
BIOZONE authors will explain features of BIOZONE new title - Biology for VCE Units 3&4 - designed and written specifically for the new study design. The authors will explain the rationale behind the design and implementation of the resource and present strategies for its use in and out of the classroom. The authors welcome audience discussion. All attendees will receive a FREE copy of BIOZONE new Biology for VCE units 3&4.
Suitability: VCE Units 3 & 4
Repeated in B5

A3 Unit 3 & 4 Revision with Quantum Victoria
Cressida Byrne & Carlie Alexander, Quantum Victoria
Delegates attending this workshop will have an opportunity to explore Quantum Victoria’s new revision series. The revision series covers Units 3 & 4 Biology using a range of engaging activities. The activities are designed to instil understanding of key fundamentals that underpin the VCE Unit 3 & 4 Biology course. Participates of this workshop will have hands on experience with topics from the revision series. Quantum Victoria is a state-wide provider of STEM education programs. Join our presenters and discover this exciting new revision series.
Suitability: VCE Units 3 & 4

A4 ABC- Agriculture, Biology and Careers
James Hunt, La Trobe University & Anna-Leisa, Get into Genes
Designed to meet the curriculum requirements of Unit 1 Biology, Area of Study 2. Take a guided tour from the La Trobe Union Building to the Centre for AgriBioscience, and and explore the iconic gum species used in this bioinformatics workshop. On the way, eucalypt expert Josquin Tibbits, will provide information on the various adaptations to the Australian environment and morphological features used in classification. At the state of the art AgriBio building, teachers will be given a brief talk on Get into Gums, the derivation of the molecular data used in the workshop, and the opportunity to explore the bioinformatics software used by students to create phylogenetic trees.
DOUBLE SESSION A4 & B4
Suitability: All/VCE Unit 4

A5 Living Systems - VCE Biology in a 30Hectare Wildlife Sanctuary
Andrew Stocker, La Trobe Wildlife Sanctuary
Join the La Trobe Wildlife Sanctuary Staff on a walk through their 30 Hectare ‘Outdoor Laboratory’. Discover how they utilise a bush setting to achieve the outcomes of Unit 1, area of study 2 and 3, directly linking a practical investigation to the conservation of endangered animals and plants.
***Delegates to meet at the Sanctuary Entrance
Suitability: VCE Unit 1
Repeated in B7

A6 New VCE Study Design – What Ecolinc can offer you
David Tait & Carol-Anne Glynne, Ecolinc Science
Ecolinc, with an emphasis on the environment and sustainability, is much more than just one of the six specialist science excursion venues funded by DET. As well as offering programs to cater for 2017 VCE areas of study (including SACs) and the Victorian Curriculum (Years F-10), we provide teacher professional development and free online resources. Come and find out more.
Suitability: VCE Units 1, 2, 3 & 4
Repeated in C7
Session B
11:30am – 12:30pm

B1 Assessment for Learning in Biology
Tori Shaw, Carey Baptist Grammar
This presentation briefly looks at what Assessment for Learning is and then focuses on using the AFL tools in the Biology classroom
Suitability: ALL
Repeat of A1

B2 Modelling in your classroom to make learning difficult biological concepts more attractive, accessible and meaningful
Merrin Evergreen, Evergreen Quest
Difficulties associated with teaching and learning concepts associated with molecular biology (e.g., aspects of genetics and processes such as protein synthesis and photosynthesis) are multidimensional and unique. Challenges can arise due to the domain-specific language, abstract nature of the concepts, levels of organisation and difficulties in visualising molecular events. The use of models enables objects, systems and processes that cannot be observed to be directly manipulated. They can function as a bridge between abstract scientific phenomena and students' cognitive abilities. In this session, a variety of models that can be used in the teaching and learning of challenging biological concepts will be explored.
Suitability: VCE Units 1, 2 & 3

B3 An overview of the Wolfram tools available for all Victoria STEM teachers
Craig Bauling, Wolfram Research
The Victoria Department of Education is supplying to all public and private schools the complete Wolfram tools suite including:
- Mathematica - for higher secondary explorations,
- Mathematica Online - for iPads and Tablets,
- Wolfram|Alpha Pro - for cross discipline exploration,
- Wolfram Programming Lab - for introductory coding and Algorithm explorations, and
- Wolfram SystemModeler - for visual modelling and simulation.

Join Craig Bauling as he presents an overview of these tools and details on how to gain access for you and your students. Specific examples will highlight tool use in the field of Biology.
Suitability: ALL
Repeat of A2
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B6 Relevant and Motivational Technology for Teaching Biology
Phil Jones, The Logical Interface
Sophisticated technology, once only the domain of forensic and research laboratories, is now within the reach of every science educator. Such technologies excite students and bring a sense of relevance to learning biology. In this workshop we will examine
* Digital Microscopes, Digital Eyepieces, including Wi-Fi models for use with iPad and Android tablets and phones
* Our Australian Imaging Software for measurement and annotation
* The new generation Data Loggers and their application to Biology teaching, including Bluetooth models for use with iPads and Android tablets and phones.
* Technology strategies for field work.
* Modelling software for the new national curriculum.
Suitability: ALL
Repeated in C6

B7 Living Systems - VCE Biology in a 30Hectare Wildlife Sanctuary
Andrew Stocker, La Trobe Wildlife Sanctuary
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***Delegates to meet at the Sanctuary Entrance
Suitability: VCE Unit 1
Repeat of A5

B8 Interactive Simulations for the new Unit 2 Biology
Michael O’Brien, Newbyte Educational Software
New BYOD versions of Drosophila and Pea Plant Genetics Labs are now available, yes that includes the long awaited iPad versions too. All with self-marking Labs. Finding good genetics programs and using them effectively on multiple devices has been a problem until now. This, hands on workshop, will give you some great practical ideas for using this new technology in your classroom for unit 2. Receive a free trial CD and someone will win a copy of one of these packages.
Suitability: VCE Unit 2

VCAA Update
1:30pm – 2:30pm
Maria James - VCAA
VCAA Update

Session C
2:35pm – 3:35pm

C1 Meet the Chief Assessor
Hugh Latimer, Independent Consultant
The 2016 Biology Examination and Report will be discussed and advice given to teachers
Delegates note; bring a copy of the 2016 VCE Biology examination.

C2 Science teachers’ use of resources to inform their teaching
Fiachra Barry, Victoria University
The majority of PD programs available to secondary school science teachers are formal sessions. However, there is now available to teachers ever increasing opportunities to informally educate themselves in both content knowledge and practical skills. This workshop will investigate the resources that science teachers use in order to inform their teaching and enhance their professional practice. As participants you will have the opportunity to share your learning experiences with the group and help develop our understanding of this topic.
Delegates note: This session will be part of a PhD study and will be recorded as a source of data for the study.
Suitability: VCE Units 1, 2, 3 & 4/All

C3 An overview of the Wolfram tools available for all Victoria STEM teachers
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Suitability: ALL
Repeat of B3
C4 Ideas for teaching the New 3/4 Biology Study Design
Helen Silvester, Mentone Girls’ Grammar,
What is new in the study design and how can it be taught in a meaningful way to students? What are master genes? What is BMP4 and how does it affect jaw growth in fish and beaks in finches? What else is new in the course? How can I incorporate the practical investigation in a realistic way? These topics will be discussed and hands on activities will be shared by a practicing teacher.
Suitability: VCE Units 3 & 4

C5 VCE Units 1&2 Biology: Addressing the new Study Design
Richard Allan & Tracey Greenwood, Biozone Learning Media Australia
BIOZONE’s authors will explain features of BIOZONE’s new title - Biology for VCE Units 3&4 - designed and written specifically for the new study design. The authors will explain the rationale behind the design and implementation of the resource and present strategies for its use in and out of the classroom. The authors welcome audience discussion. All attendees will receive a FREE copy of BIOZONE’s new Biology for VCE units 3&4.
Suitability: VCE Units 1 & 2

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* The new generation Data Loggers and their application to Biology teaching, including Bluetooth models for use with iPads and Android tablets and phones.
* Technology strategies for field work.
* Modelling software for the new national curriculum.
Suitability: ALL
Repeat of B6

C7 New VCE Study Design – What Ecolinc can offer you
David Tait & Carol-Anne Glynne, Ecolinc Science
Ecolinc, with an emphasis on the environment and sustainability, is much more than just one of the six specialist science excursion venues funded by DET. As well as offering programs to cater for 2017 VCE areas of study (including SACs) and the Victorian Curriculum (Years F-10), we provide teacher professional development and free online resources. Come and find out more.
Suitability: VCE Units 1, 2, 3 & 4
Repeat of A6

C8 Stem Cell Teacher Resource: Contemporary science and controversial issues
Peta White Ian Bentley, Deakin University
One of the challenges of teaching biology is how to represent contemporary advances in science and controversial issues in the curriculum. Stem cells are now key knowledge under cell growth and cell differentiation in Unit 2, Area of study 1. This presentation will introduce and illustrate a resource that supports teaching about stem cells that were developed with the cooperation of a scientist working in the area. These activities draw on contemporary pedagogies, such as the use of drama, designed to engage students in dealing with scientific practices and ideas as well and stem cell related controversy.
Suitability: VCE Unit 2
Repeat of A7

C9 Bioinformatics - Get into Gums - Tour of eucalypt species and exploration of software
Anna Vietz, Get into Genes/DEDJTR & Josquin Tibbits, DEDJTR
Designed to meet the curriculum requirements of Unit 1 Biology, Area of Study 2.
On the way from La Trobe’s Union Building to the Centre for Agribioscience, take a guided tour by eucalypt expert Josquin Tibbits, and explore the iconic gum species used in the workshop, hearing about adaptations to the Australian environment and morphological features used in classification. At the AgriBio centre, teachers will be given a brief talk on the Get into Gums molecular data, and the opportunity to explore the software used by students to create a phylogenetic tree as part of the bioinformatics workshop.
Suitability: VCE Units 1 & 2
VCE Conferences 2017 Registration Form

Register online at: www.sciencevictoria.com.au/conferences.html

Please note registration will not be processed if a school purchase order is not supplied

Personal Details

School Purchase Order No. _______________________________ STAV Individual Membership No. _______________________________

Title: __________________________ First name: __________________________ Surname: __________________________

School/Organisation: __________________________

Email Address (all correspondence by email): __________________________

Address: __________________________

Suburb: __________________________ State: __________________________ Postcode: __________________________

Telephone: __________________________ Mobile: __________________________

School Type: ☐ Government ☐ Independent ☐ Catholic ☐ Other

Region: ☐ Northern Metro ☐ Southern Metro ☐ Eastern Metro ☐ Western Metro

☐ Grampians ☐ Barwon Sth Western ☐ Gippsland ☐ Hume ☐ Loddon Mallee

School Level ☐ Early Years (P-4) ☐ Middle Years (5-8) ☐ Later Years (9 - 10) ☐ VCE

Gender: ☐ Male/☐ Female Dietary requirements call STAV directly on 03 9385 3999

Privacy Statement:

☐ Tick box if you do not want your name and organisation on the list. In registering for the conference relevant details may be incorporated into a participant list for presenters only (name and organisation).

I wish to attend: (Please ensure you fill out a SEPARATE Registration form for each VCE Conference you wish to attend)

☐ VCE Chemistry Tuesday 14 February 2017 at La Trobe University, Bundoora

☐ VCE Biology Wednesday 15 February 2017 at La Trobe University, Bundoora


Workshops: Session Selection

*There is a limit to the number of participants in many sessions. Sessions will be allocated on a ‘first come, first served’ basis.

*You will be notified by email of the sessions to which you have been allocated prior to the conference.

*Register as early as possible to ensure your choice of sessions.

*Session codes must be used, eg. A1, B1, C1

Preferences

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Chemistry ONLY

☐ Will you be attending the “Meet’n Mingle” session? Please tick.

Please complete details overleaf>>
VCE Conferences 2017 Registration Form

Name:

VCE Chemistry and Biology Conferences
- STAV Individual member - $172 per conference
- CEA Member (for Chemistry conference only) - $172 per conference
- STAV School Subscriber - $282 per conference
- Non-STAV member - $307 per conference
- Retired Teacher - $78 per conference
- Full Time Student (Must provide student id to receive concession rate) - $78 per conference
- Presenter - FREE

Registration includes
Conference sessions, morning tea and lunch. All prices quoted are GST inclusive. A tax invoice will be issued.

Payment details
ABN 94 108 759 762
TAX INVOICE

☐ Cheque - make payable to: SCIENCE VICTORIA
☐ Invoice School/Purchase order supplied
☐ Credit Card (Please tick applicable)
☐ VISA ☐ MasterCard

Card No. [______] [______] [______] [______] [______] [______] Expiry Date [______] [______] CCV No. [______] [______] [______]

Name of Cardholder (please print) __________________________ Signature __________________________

Cancellation policy: A 50% cancellation fee will apply. Notification of cancellation must be in writing. There will not be any refund for cancellations made less than 2 weeks prior to the conference.

CLOSING DATE for all Registrations is 5 business days prior to each conference.

EMAIL: stav@stav.vic.edu.au • FAX: 9386 6722