



STAV Publishing and Northcote High School present

ICT and Science: Helping to maintain Australian biodiversity

ICT Conference Program 2010

For Teachers of Years 5 - 12 Science

Friday 27 August 2010 at Northcote High School, St George's Road, Northcote.

8.00am – 8.40am	Registration and trade displays
8.40am – 8.45am	Welcome & housekeeping
8.45am – 9.00am	Introduction to the ICT in Science Ning site
9.00am – 10.00am	Session A
10.00am – 10.30am	Morning tea and trade displays
10.30am – 11.30am	Session B
11.30am - 12.30pm	Session C
12.30pm - 1.30pm	Lunch and trade displays
1.30pm – 2.30pm	Session D
2.30pm – 3.35pm	Keynote address Dr Jane Melville Senior Curator Herpetology and Dr Joanna Sumner Manager Genetic Resources, Museum Victoria
3.35pm onwards	Wine and cheese session: Wine & Cheese while you talk. For more information go to: www.sciencevictoria.com.au/stavpublishing/ictConference.html

Closing Date for Registrations: Friday 20 August 2010

For further information contact the STAV Business Centre

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Email: stav@stav.vic.edu.au • Website: www.sciencevictoria.com.au/stavpublishing/ictConference.html

ICT Conference Program 2010

Introduction to the ICT in Science Ning site

8.45am - 9.00am

Session A: 9.00am – 10.00am

A1 Using Word and Excel in the classroom

George Walpole, Melbourne Grammar School

This workshop demonstrates some of the ways you can use Word and Excel to make teaching easier and more interesting. Making your own resources means that they are tailor-made to your students' needs. Examples will include a study tool, labelling a diagram of the eye, monitoring water usage at home, analysing your diet, a self-marking test, a survey, and locating an image using a lens. All of the programs will be available to take away if you bring a memory stick. The first half will be demonstrations of some home-made programs. The second half will be making your own simple program to learn new skills.

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Repeated in D1

A2 Does size matter?

Nhan Do & Rosemary Butera, Northcote High School

Nanotechnology is the technology which results from our ability to control matter at the level of atoms and molecules. Nano Science has driven the development of new materials such as smart fabric, hydrophobic glass and aero gel. In this 'hands on' workshop you will be able to explore Nano enhanced materials and compare the similarities and differences to normal products. You will also get the chance to virtually explore how Nanotechnology can be used to detect disease in cows and how viruses can be used make nano gold wires.

Suitable for: Sec (7 – 10)

Limit: 25

A3 Making the most of presentations

Paul Mameghan, Northcote High School

During this workshop you will see how project based learning in science can be presented in a digital format. You will be shown and have the opportunity to create a Photostory depicting various project findings. You will use digital images to make the most of presentations using Photostory including how to incorporate PowerPoint slides and Excel graphs. This session will give you practical ideas that can be easily integrated into existing units to engage and motivate students.

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Repeated in D3

A4 Learning objects in the science classroom

Sarah Emanuel & Sarah Green, Northcote High School

In this workshop you will explore the ways in which Learning Objects can enhance a unit of work on space science. Each participant will be given a DVD with all the Learning Objects developed as well as worksheets to take back to their science classrooms.

Suitable for: Sec (7 – VCE)

Limit: 25

Repeated in B4

A5 Ethics and evolutionary influences of GM foods and modern agriculture

Jason Major, TechNyou

Modern agriculture and especially transgenic technologies have enabled rapid advances in plant breeding, but in what way, if any, are these technologies affecting evolution, or biodiversity? GM foods, in particular, is a complex issue and one that is hard to untangle even for the aware and interested, but, in this context, is it any different from other breeding technologies? You will explore the ethics and issues surrounding modern agriculture, with a specific focus on transgenics. The workshop will be interactive and present ideas for class activities to help students think critically about their own and others' arguments.

Suitable for: Sec (10 – VCE)

Limit: 25

Extension education

Repeated in D5

A6 Video analysis using Tracker

Mike Pekin & Michael Waiser, Northcote High School

Tracker is a great free program for analysing videos in science. Download prepared videos from the web and take measurements, draw graphs and fit equations. It's not just for kinematics; its measurement function is useful in a range of situations. In this session you will get an introduction to Tracker and see some of Northcote High's videos taken at 30fps using our Canon Ixus 8015s and also at 210fps and higher using one of the high-speed Casio Exilim range of cameras which are now within the budget of schools.

Note: Suitable for 7 – 10 and VCE Physics.

Suitable for: Sec (7 – VCE)

Limit: 25

Repeated in D6

A7 Biodiversity and ICT at Museum Victoria

Angela Muscat & Jonathan Shearer, Museum Victoria

Biodiversity Snapshots is a community science tool that aims to engage students in local biodiversity investigations. With the use of web based and modern mobile devices, this environmental monitoring program provides a forum where students can collaborate with scientists to answer real world questions and gain first-hand experience of current environmental surveying techniques. The iPod Safari is an audio tour of the Science and Life Gallery. It covers Milarri Garden, Forest Gallery, Bugs Alive and Wild. It highlights key features and threats of Victorian biodiversity from each gallery.

Suitable for: Pri/Sec (5 – 10)

Limit: 25

Extension education

A8 Podcasting through Biodiversity

Kristy Graham, Distance Education Centre of Victoria

Heard the term, listened, but haven't actually made one? This session is for beginners. You will learn how to make a podcast and how to use them to engage students in a topic, whether it is teacher podcasting or student podcasting. Hints, tips and tools are given in this session.

Note: Your own headset (microphone and earphones) will be useful in this session.

Suitable for: Pri/Sec (5 – VCE)

Limit: 20

Extension education

Repeated in B8

A9 Biology for interactive whiteboards, laptops and computer labs

Michael O'Brien, Newbyte Educational Software

Interactive Whiteboards and student laptops are a coming trend in education, however finding good biology programs and using them effectively is a problem. This hands on workshop will give you some great practical ideas for using this new technology in your biology classroom. During the workshop we will examine several software packages including those from Newbyte, Sunflower and others. Use the new Natural Selection and Evolution Series. Receive an evaluation CD and someone will win a full version of one package.

Suitable for: Sec (7 – VCE)

Limit: 25

Commercial

Morning Tea & Displays

10.00am – 10.30am

**Session B:
10.30am – 11.30am****B1 Student centred learning, e5 and assessing ICT in science**

Melody Gabriel & Jody Neilson, Northcote High School

During this workshop you will see how student centred learning can allow students to access curriculum in a fun and independent way. These activities allow assessment of VELs for science and ICT using the Inspiration package to assess visual thinking. You will have the opportunity to use the Inspiration software as well as see and use an eBeam. The eBeam will be used alongside interactive packages to help explain challenging concepts. This product changes any whiteboard into an interactive whiteboard.

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Repeated in C1

B2 Crocodile Physics

Toni Little, Northcote High School

This session aims to establish skills and build confidence with the use of crocodile physics. It is suitable for people new to junior physics delivery and experienced alike. Crocodile physics is a useful tool to accompany the delivery of Electricity and Light from Year 7 to VCE.

Suitable for: Sec (7 – VCE)

Limit: 25

Repeated in D2

B3 Elluminate - Virtual collaboration in real-time!

Soula Bennett, Quantum Victoria

Come and explore the possibilities that Elluminate has to offer! This workshop will provide you with an opportunity to navigate your way through the Elluminate platform, to discover how you can collaborate in a virtual environment in real-time with your students and colleagues and to experience the ways in which Elluminate can be used as an effective teaching & learning tool.

Note: It will be advantageous if you bring your own headset (audio) with a microphone attached. Some headsets will be available.

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Extension Education

B4 Learning objects in the science classroom

Sarah Emanuel & Sarah Green, Northcote High School

In this workshop you will explore the ways in which Learning Objects can enhance a unit of work on space science. Each participant will be given a DVD with all the Learning Objects developed as well as worksheets to take back to their science classrooms.

Suitable for: Sec (7 – VCE)

Limit: 25

Repeat of A4

B5 Blogs and Wikis for learning and assessment

Drew Chan, Methodist Ladies' College

This session will explore the uses of blogs and wikis as learning and assessment tools. The differences between a blog and wiki will be explained, as well as the contexts in which they could be used. Focus will be on the in-house MLC blog and wiki tools but could equally be applied to blog and wiki tools freely available on the internet. Participants will also get an opportunity to put to their knowledge into practice by collaborating with others on a wiki project.

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Repeated in C5

B6 Backyard Science, supporting science literacy and improving student engagement

Maggie Garrard, Australian Children's Television

Backyard science is a high-quality science based teaching and learning resource for non-specialist science educators based on the Primary Connections 5Es teaching framework: Engage, Explore, Explain, Elaborate and Evaluate. This interactive resource promotes the development of scientific literacy through a variety of teaching strategies, video clips, detailed notes and classroom experiments from the highly successful Backyard Science television series. It utilises digitised video clips of experiments conducted by 'kids for kids' based on scientific discovery, investigation, problem solving and curiosity about our world. The teaching resource references the National

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Statements of Learning for Science and is adaptable for any teaching context using accepted science pedagogy reflected in all Australian state and territory curriculum.

Suitable for: Pri/Sec (5 – 8)

Limit: 20

Extension Education

Repeated in C6

B7 The best PD you never had to pay for

John Pearce, Salty Solutions Educational Consultancy

Personalized learning for students is very much in vogue at present so shouldn't this hold for teachers as well? With the advent of Web 2.0 tools such as Diigo, Twitter, Skype and others it is easier than ever for teachers to not only take control of their professional learning but also connect with other like-minded learners world-wide. Personal Learning Networks are a manifestation of this. This session will explore the tools you might use and assist you to build a network in order to participate in the best on-going professional development you choose to engage in.

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Commercial

B8 Podcasting through biodiversity

Kristy Graham, Distance Education Centre of Victoria

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Note: Your own headset (microphone and earphones) will be useful in this session.

Suitable for: Pri/Sec (5 – VCE)

Limit: 20

Extension education

Repeat of A8

B9 Chemistry for interactive whiteboards, laptops and computer labs

Michael O'Brien, Newbyte Educational Software

Interactive whiteboards and student laptops are coming trends in education, however, finding good chemistry programs and using them effectively is a problem. This hands on workshop will give you some great practical ideas for using this new technology in your chemistry classroom. During the workshop we will examine several software packages including Sunflower, Roger Frost and Newbyte programs. Receive a free demo CD and someone will win a full version of one of these packages.

Suitable for: Sec (7 – VCE)

Limit: 25

Commercial

B10 Creative and Engaging Web 2.0 tools for classroom use

Clare Rafferty and Kimberley Hall, Ringwood Secondary College

In this hands-on session participants will be guided through many Web 2.0 tools for use in the classroom and be inspired by ideas on how to introduce and use these tools with students. You will be walked through the tools and be given time to play and create a variety of pieces during the workshop including a wordle, a superhero and a lego man, as well as a movie. You will have time to brainstorm and share ideas on classroom use of these tools.

Suitable for: Pri/Sec (5 - 11)

Limit: 25

Repeated as C8

Session C: 11.30am – 12.30pm

C1 Student centred learning, e5 and assessing ICT in science

Melody Gabriel & Jody Neilson, Northcote High School

During this workshop you will see how student centred learning can allow students to access curriculum in a fun and independent way. These activities allow assessment of VELs for science and ICT using the Inspiration

package to assess visual thinking. You will have the opportunity to use the Inspiration software as well as see and use an eBeam. The eBeam will be used alongside interactive packages to help explain challenging concepts. This product changes any whiteboard into an interactive whiteboard.

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Repeat of B1

C2 Global Biodiversity

Megan Bourke, Global Education Project

Biodiversity refers to the variety of life on Earth. It encompasses the wide array of ecosystems, ecological processes and genes that contribute to human health and well-being. Megan, Project Coordinator for the Global Education Project, will examine the scientific and geographic nature of global biodiversity. Teachers will work with maps and resources suitable for Middle Years students as they gain knowledge and skills to prepare them with a full understanding of the International Year of Biodiversity.

Suitable for: Sec (7 – 10)

Limit: 25

Extension Education

C3 Quiz it- Science! The ultimate classroom battle

Peter Curry, Quiz Meisters Trivia

Quiz-It Science is a great opportunity to get your students active and engaged with their curriculum in the classroom. Quiz-It combines year level appropriate subject matter with pop culture to produce an entertaining and educational trivia competition that will encourage teamwork amongst your students. Designed for years 7 and 8, the quiz is an excellent way to gauge students' knowledge before a new area is explored, or to revise content that has already been taught. It contains DVD games like The Mad Scientist, Name These Scientists, Science Morph, Panda's Problem, The Same Game and many more. Questions are presented along with upbeat music to create an exciting environment that will feel like a TV quiz show has arrived at your school!

Note: Please bring a pen and be ready for some fun!

Suitable for: Sec (7 – 9)

Limit: 25

Commercial

C4 3D computer molecular modelling (Rasmol)

Rohan Griffiths, Northcote High School & Robert Brownlee, Latrobe University

You will be involved in a hands-on workshop using the Rasmol software to develop an understanding of its capacity in assisting students with their understanding of molecular structure and properties in chemistry, biology and general science. Applications of the software (for example, green chemistry, nanotechnology) and medicinal chemistry will be presented. Participants can copy the Rasmol program and a selection of teaching resources on USB.

Note: Please bring a USB.

Suitable for: Sec (7 – VCE)

Limit: 25

Repeated in D4

C5 Blogs and Wikis for learning and assessment

Drew Chan, Methodist Ladies' College

This session will explore the uses of blogs and wikis as learning and assessment tools. The differences between a blog and wiki will be explained, as well as the contexts in which they could be used. Focus will be on the in-house MLC blog and wiki tools but could equally be applied to blog and wiki tools freely available on the internet. Participants will also get an opportunity to put to their knowledge into practice by collaborating with others on a wiki project.

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Repeat of B5

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highly successful Backyard Science television series. It utilises digitised video clips of experiments conducted by 'kids for kids' based on scientific discovery, investigation, problem solving and curiosity about our world. The teaching resource references the National Statements of Learning for Science and is adaptable for any teaching context using accepted science pedagogy reflected in all Australian state and territory curriculum.

Suitable for: Pri/Sec (5 – 8)

Limit: 20

Extension Education

Repeat of B6

C7 Digistories done scientifically

John Pearce, Salty Solutions Educational Consultancy

It's a fact, children love telling stories. It's also a truism that 'a picture tells a thousand words'. The range of easy to use tools means that capturing digital images is now almost ubiquitous. Through capturing images and telling the stories behind them students can take ownership of the scientific task much more effectively than ever before. This session will look at a range of tools and applications that can be used by students to tell their science stories digitally as well as examining how the use of images contributes to the science learning process

Suitable for: Pri/Sec (5 – VCE)

Limit: 25

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Suitable for: Pri/Sec (5 - 11)

Limit: 25

Repeat of B10

C9 Genetics for interactive whiteboards, laptops and computer labs

Michael O'Brien, Newbyte Educational Software

Investigate how good software can help your students understand emerging technologies and difficult concepts, when used with interactive whiteboards. This workshop will give you some great practical ideas on how to integrate modern technologies into your teaching. You'll have the chance to use genetics software developed in Australia and Sweden. Explore how these resources can be used effectively in various teaching situations. Receive a FREE demo CD and someone will win a full version of a package.

Suitable for: Sec (7 – VCE)

Limit: 25

Commercial

Lunch & Displays
12.30 – 1.30pm

Session D:
1.30pm – 2.30pm

D1 Using Word and Excel in the classroom

George Walpole, Melbourne Grammar School

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D2 Crocodile Physics

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Repeat of B2

D3 Making the most of presentations

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Jason Major, TechNyou

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Extension education

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D6 Video analysis using Tracker

Mike Pekin & Michael Waiser, Northcote High School

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Suitable for: Pri/Sec (5 – VCE)

Limit: 25

Commercial

Repeat of C7

D8 NXT Next Generation LEGO Robotics

Libby Moore, LEGO Education Centre

NXT MINDSTORMS for Schools from LEGO Education is a dynamic, engaging resource for primary and secondary students. Use light, sound, touch and ultrasonic sensors to program and control robots. The new temperature sensor and data logging feature integrates robotics into science, technology and maths. Explore how easy and engaging it is to implement a leading edge robotics program in your school.

Suitable for: Pri/Sec (5 – 10)

Limit: 20

Commercial

D9 Ecology for interactive whiteboards, laptops and computer labs

Michael O'Brien, Newbyte Educational Software

Simulation software can bring your ecology class to life, particularly when used in conjunction with project-based learning and/or an excursion. Experience 'Rocky Shore Ecology', 'Food Webs Australian Woodlands' and 'Food Webs Ponds' and see how they can help your class understand ecology. This hands-on workshop will give you some great practical ideas for your students. Learn about the hidden features and full potential of these programs. Receive a FREE demo CD and someone will win a full version of one of these packages.

Suitable for: Sec (7 – VCE)

Limit: 25

Commercial

Keynote Address

2.30pm - 3.35pm

Dr Jane Melville Senior Curator Herpetology and Dr Joanna Sumner Manager Genetic Resources, Museum Victoria

Jane Melville's research interests combine field studies with a variety of molecular genetic analyses to study population biology, systematics, evolutionary ecology, and speciation in reptiles and amphibians. Currently, her research is primarily aimed at investigating the evolutionary processes and patterns that shape current communities.

Dr Joanna Sumner manages the genetics lab and tissue collection, and undertakes research on reptile population genetics and phylogeography. She is currently researching the *Eulamprus quoyii* group of water skinks, investigating how the history of the Great Dividing Range has shaped the evolutionary history of animals in the area. Geological events such as the uprising of the Great Dividing Range, and climatic events such as ice ages, have shaped the current distribution of species. Other projects include the population biology and molecular ecology of the endangered broad-headed snake and research on threatened species legislation.

Wine and cheese session

3.35pm onwards
see below for further details



STAV Publishing and Northcote High School present

Invitation: Wine and cheese session

**ICT Conference Wine & Cheese
Friday 27 August 2010
3.35pm onwards at
Northcote High School**

You are invited to attend the ICT Conference Wine and Cheese Session. This event brings together the Keynote Speakers, presenters, members of the wider science community and participants for an informal discussion and social gathering.

We look forward to meeting you all!

How to register

All conference information including the conference program is available on the **Science Victoria website: www.sciencevictoria.com.au/stavpublishing/ictConference.html**

- **You can register on-line** or download a registration form.
- All conference correspondence is by email.
- Once we have processed your registration, you will receive an email confirming that we have received your registration including your session allocations and all conference information. Please note these allocations may be subject to change. If you have not received an email within 2 business days please contact the STAV Business Centre.
- FINAL confirmation of your session allocations will be **emailed** within 5 business days prior to the conference.

For further information

Contact the STAV Business Centre PO Box 109 COBURG VIC 3058

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