



## SiMERR Summit conference

### Ways to improve educational outcomes in rural and regional Tasmania

10am – 4:00 pm, June 4<sup>th</sup> 2008  
Sir Raymond Ferrall Centre,  
UTAS, Newnham Campus, Launceston

#### Purpose:

The aims of the summit are :

1. to showcase the 15 educational research projects sponsored by SiMERR from 2006 to 2008 in the ICT, Science and Maths areas. What we have learnt, key issues, insights and future possibilities.
2. to understand issues and needs in rural and regional communities
3. to look at successful models for rural and regional partnerships
4. to explore opportunities and grow ideas
5. to build partnerships among educators, researchers, business and communities to develop further projects and networks that can assist in improving educational outcomes

#### SiMERR at a glance

SiMERR (Science, ICT and Maths Education in Rural and Regional Australia) is a nationally funded program that has been operating from October 2005 to June 2008. It aims to support educational innovations and research to understand and promote ways of improving educational outcomes in rural and regional areas.

Each state and territory has a “hub” which assists educators in developing projects and linking to research mentors, experts and funding. The Tasmanian “hub” is managed by the *University of Tasmania Education Faculty* with Professor Jane Watson being the coordinator. The Faculty has contributed financially and in-kind to SiMERR.

Although the national program ends in June 2008, the SiMERR model is one that the Faculty wish to continue in some form, building on the partnerships that have been developed between educators, researchers and experts.

## The key issues

How can we increase student achievement in rural and remote areas and overcome cultures of low expectation? How can communities attract and keep professionals? How can school leadership encourage expectations and foster programs to support student pathways? How can we support innovative and passionate teachers in developing and implementing intervention strategies? How can remote areas access or build expertise?

## The projects and their significance

Fifteen projects were funded by SiMERR Tasmania, ranging from delivering tailor-made professional learning for teachers, working directly with students and parents, creating on-line learning resources and delivery for remote areas, as well as researching underpinning attitudes and cultures. Many of the programs were initiated by teacher “champions” passionate about what they do, looking at ways to make a difference.

The findings of the projects led to embedding programs, continued funding for research, improved understanding of the deeper issues and dissemination of papers to conferences and journals. Partners included the Department of Education, the Catholic Education Office, TAFE, LEGO, CSIRO, and the UTAS Science, Engineering and Technology Faculty.

## We are now seeking partnerships from:

- **Teacher “Champions”** – Where do you see a particular need? What support do you need to make an idea happen?
- **Schools and Education Systems**– How might a research partner help you understand more about your school, or programs you wish to initiate?
- **Researchers** - What are your areas of expertise that you could offer? How might partnerships assist development of your research interests?
- **Business and Industry** - How can we work together to create employees who will add value to your business?
- **Community Groups** - How can we work together to enhance the educational outcomes of your community?

## Want to participate?

The summit is free but your place needs to be reserved. Morning and afternoon tea and lunch will be provided. Please let us know the names and positions of those people that will be attending from your organization by May 23rd. RSVP to [Susan.Stack@utas.edu.au](mailto:Susan.Stack@utas.edu.au).

<b>SiMERR Program – June 4th</b>			
10:00 - 10:30	<p><b>Introduction</b></p> <p>1. Introduction and welcome - <b>Dean Ian Hay</b>, Faculty of Education, UTAS  2. <i>From country girl to international scientist</i> – Dr Jaci Brown, CSIRO  3. <i>Following your passion to make a difference</i> – Robyn McKinnon, Tasmanian Young Australian of the Year, Rural Co-Pilots and Crisis Worker</p>		
10:30 – 11:10	<p><b>Setting the scene</b> - <i>What do we know about broad rural issues and the cultural context?</i></p> <p><b>PANEL – Facilitator – Dr Natalie Brown</b>, Jenny Branch (President of State Parents and Friends), Prof Joan Abbott-Chapman (Rural and Regional Education and Training), Dr Kim Beswick (Researcher, UTAS), Lesley Richardson (Education &amp; Training Liaison – TCCI), Cheryl McCartie (TWiA), Steve Reissig (Principal, Ravenswood)</p>		
11:10 – 11:30	<b>Morning Tea</b>		
11:30 – 12:20	<p><b>SiMERR findings</b> - <i>What we have learnt about implementing education initiatives in Science, Maths and ICT in rural areas ....</i></p> <p>1. What SiMERR Australia has found out from their projects (Prof Jane Watson).  2. What we have learnt from the Tasmanian projects... .. each SiMERR researcher will briefly discuss emerging issues and insights from their studies.</p>		
12:20 – 12:50	<p><b>Discussion groups</b> – <i>What are key issues? What are the implications for school groups and communities? What opportunities are emerging?</i></p>		
12:50 – 1:50	<b>LUNCH</b>		
1:30 – 1:50	<p><b>Scanning / meeting - POSTERS</b> in foyer of SiMERR projects with key people to talk to per poster</p>		
<p><b>Parallel sessions</b> – <i>exemplary models for partnerships and delivery in remote areas... going into a model in depth</i></p>			
1:50 – 2:20	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><b>1. Developing an effective professional learning model to create change in perspectives about learning and ICT at TAFE</b>  Dr Helen Bound, Annette Salter, Graeme Kirkwood (SiMERR)</p> </td> <td style="width: 50%; vertical-align: top;"> <p><b>2. Building partnerships between Schools, local Primary Industry and University</b> - Dr David Russell – PISCE, UTAS  <b>Student Science Investigations</b> - Cheryl McCartie (TWiA) and Paul O'Halloran – Agricultural Science, UTAS</p> </td> </tr> </table>	<p><b>1. Developing an effective professional learning model to create change in perspectives about learning and ICT at TAFE</b>  Dr Helen Bound, Annette Salter, Graeme Kirkwood (SiMERR)</p>	<p><b>2. Building partnerships between Schools, local Primary Industry and University</b> - Dr David Russell – PISCE, UTAS  <b>Student Science Investigations</b> - Cheryl McCartie (TWiA) and Paul O'Halloran – Agricultural Science, UTAS</p>
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2:20 – 2:50	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><b>3. What is the effectiveness of on-line delivery models using a central expert?</b> – SMARTBOTS and GAME-MAKING – Dr Andrew Fluck, Margaret Meijers (SiMERR)</p> </td> <td style="width: 50%; vertical-align: top;"> <p><b>4. Do resource kits help to skill-up teachers?</b>  Chair: Dr John Kenny  <i>Science kits</i> – Dr Andrew Seen (SiMERR)  <i>Engineering kits</i> – Dr Bernardo Leon de la Barra (ASSISTM)</p> </td> </tr> </table>	<p><b>3. What is the effectiveness of on-line delivery models using a central expert?</b> – SMARTBOTS and GAME-MAKING – Dr Andrew Fluck, Margaret Meijers (SiMERR)</p>	<p><b>4. Do resource kits help to skill-up teachers?</b>  Chair: Dr John Kenny  <i>Science kits</i> – Dr Andrew Seen (SiMERR)  <i>Engineering kits</i> – Dr Bernardo Leon de la Barra (ASSISTM)</p>
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2:50 – 3:40	<p><b>PLENARY</b> - <i>looking forward, what might be possible</i> – <i>facilitator – Dr Natalie Brown</i></p> <p>1. <b>Becoming a partner</b>... what the university can offer – Dr Andrew Fluck  2. <b>Panel, forum and discussion</b> – Dean Ian Hay (Education, UTAS), Bob Phillips (Learning Services, DoE), Graeme Kirkwood (Learning and Innovation, TAFE), Dean Megan Cavanagh-Russell (Student Pathways, UTAS), Lou Clark (Launceston Chamber of Commerce)</p>		
3:40 – 4:00	<b>Afternoon Tea and networking</b>		

## Key Speakers

### Introductory Session:



*From country girl to international scientist – have supercomputer, can save the world!*

**Dr Jaci Brown**, exemplifies what SiMERR is hoping to achieve – creating opportunities for students in rural and remote areas. Jaci grew up in Kakadu National Park and then at Mildura before leaving her family to go to University of NSW, becoming the first in her family to attempt a tertiary qualification. She moved down to Hobart to work at CSIRO on ocean modelling, while presenting the weather on ABC TV as she completed her PhD.

Jaci is passionate about education and the communication of science, acting briefly as scientist in residence at Ogilvie High School, assisting teachers in developing and teaching learning sequences related to climate change. She has just returned to CSIRO from a 2-year stint at Yale working on modelling *el nino*. Jaci will talk a little about her story and the issues she had to face growing up regional Australia, as well as her research and its impact on rural regions.



*Following your passion to make a difference*

**Robyn McKinnon**, Tasmanian Young Australian of the Year 2008, is passionate about developing healthy communities in rural areas. She has a remarkable record of youth support and counselling. As part of being coordinator of the Rural Co-pilots Mentoring program, Robyn has set up projects in her local community ranging from an early morning breakfast club program at school for children in need and an after school mentoring program for young rural girls that focuses on building self esteem and healthy lifestyles. She has trained over 40 community members as mentors to work alongside young people, as well as inspiring many others to become more involved in supporting young people.

Robyn has been a member of the Tasmanian Youth Consultative Committee, the 2007 National Youth Roundtable and the Launceston Women's Shelter management committee and has won numerous achievement awards in recognition of her work. Robyn will bring to the summit a hands-on experience of working with some of the deep issues that effect young people in rural communities and remind us that we can make a difference.

## **Parallel Sessions - exemplary models for partnerships and delivery in rural and regional areas**



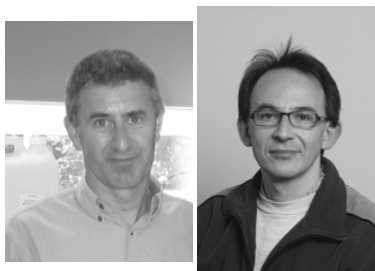
### ***Building Partnerships between schools, local Primary Industries and University***

**Dr David Russell**, Project Manager for *Primary Industry Centre for Science Education (PICSE)* will talk about the highly successful integrated program that has built partnerships between the University's Agricultural Science Faculty, local businesses and industries, and schools, teachers and students in order to create authentic science experiences for students to encourage continuation into the agricultural sciences. This model started 10 years ago in the north-west of Tasmania and has been extended to other states. Joining David will be **Cheryl McCartie** from *Tasmanian Women in Agriculture* and **Paul O'Halloran** from Agricultural Science, UTAS to showcase engaging students through scientific investigations.



### ***Developing an effective professional learning model to create change in perspectives about learning and ICT***

**Dr Helen Bound**, Education, UTAS and **Graeme Kirkwood**, Learning and Innovation, TAFE will discuss issues in changing teaching practice in the Construction courses at TAFE. Their project looked at how ICT and critical thinking could be used to help apprentices develop "learning to learn" skills in flexible delivery courses, involving TAFE teachers in action research.



### ***Do resource kits help to skill-up teachers?***

**Dr Andrew Seen**, Chemistry, UTAS and **Dr Bernardo Leon de la Barra**, Engineering, UTAS have each worked to design resource kits for schools based on their specialist areas. They will show what they have done and discuss how successful this sort of delivery model is in building teaching capacity.



### ***What is the effectiveness of on-line delivery models using a centralized expert?***

**Margaret Meijers**, Newtown High School, winner of a *Microsoft Innovative Teaching Award* and **Dr Andrew Fluck**, Education, UTAS will discuss some of the issues of the on-line course for game-making and robotics based on two SiMERR projects, asking *what are opportunities for the future?*

# SiMMER Projects

## *ICT:*

Using ICT tools in Vocational Education and Training to develop critical thinking

Two university researchers worked with Building and Construction Teachers at TAFE to help them understand and overcome issues in Flexible Delivery (self paced learning) with apprentices. TAFE supported team leaders to create ICT resources based on the new pedagogies to improve critical thinking.

Game Making for students and teachers in isolated areas

An expert was paid to create on-line resources for students and teachers on how to use “Game Maker” to create games. Games were seen as a way of engaging students and developing their mathematical skills. 64 teachers in schools across Tasmania were involved in the self-paced program, supported on-line by the expert. Margaret Meijers, who designed the material, won the prestigious *Microsoft Innovative Teachers Award*.

## SMARTBOTS

An expert was employed to design on-line resources for students to use with minimal guidance from their teachers in creating robotics using LEGO kits. The expert provided support on-line as students moved through the materials to culmination of creating entries for robotic competitions. The aim was to extend students, building resilience, problem solving and teamwork, while encouraging students to see opportunities for university pathways.

ICT on hand in classes

Four schools purchased sets of Palm Hand held ICT devices with Office software and gave them to science students for their personal use at home and at school. Teachers collaboratively designed units which used the Palms. The aim was to overcome poor student access to computers and make their use part of their daily lives as well as improving learning.

Online Learning objects in remote schools

Computer-based learning activities for maths and science have been developed nationally to help students grasp key concepts. This project was employing an expert to go to remote schools and demonstrate the “Learning Objects” using computer whiteboard and projectors.

## *MATHS:*

Maths games in the home

Maths games kits were created for students in four schools to take home so that they could build maths skills as part of their recreation. Parent information nights were held to help parents understand how to draw the mathematical learnings from the games.

## Building maths teaching leadership capacity in an isolated Tasmanian school cluster

This program was based on determining the needs of teachers in a group of schools for professional learning in maths and then devising a delivery program using experts. The experts gave sessions as well as worked alongside teachers in classes over a one week period.

## Maths Power - maths tutoring software for home use

A software package which targeted the skill level of students was purchased for students to use on a voluntary basis at home to pick up concepts that they had missed.

## *SCIENCE:*

### Southern Science Network

This project funded year 8 to 10 students from district schools in the Huon/Channel region to attend several day sessions at Hobart College where they could experience science activities. The aim was to improve pathways from school to College, encourage participation in pre-tertiary sciences and raise expectations of student achievement.

### Expanding science literacy in Tasmanian regional and rural schools - evaluation of professional learning processes

This project used university researchers to evaluate the successes and issues of an ASSITM program whose aim was to expand science literacy in Tasmanian Schools.

### An exploration of a professional learning model for pre-service teachers of science based on reflective practice

A university lecturer worked with pre-service teachers to help them build confidence in teaching science through the use of reflective practice.

### Building confidence in primary teachers to teach science

This project determined the needs of primary teachers in the Midland Cluster to overcome issues in delivering science in their classes. Workshops were designed to overcome some of these issues and develop greater awareness and confidence in CREST resources.

### Resourcing secondary science teachers in rural and regional Tasmania

To assist rural High Schools with limited science resources this project employed a Research Scientist to construct science kits that teachers could easily use in their science classes to improve student engagement with science.

### What are the experiences of early career science/maths/IT teachers in Tasmania?

Two researchers are collecting information from early career teachers to determine the major issues that they are experiencing.