



Living Laboratories

Emerging technologies in environmental monitoring

Context

Managers of natural resources face an enormous challenge in keeping track of the condition of water, land and biological resources. Currently environmental monitoring is perceived as being either a) expensive and difficult to interpret, b) inexpensive and impossible to interpret or c) is not undertaken. Consequently, investment decisions are often made without a clear understanding of what the consequences of the investment will be.

Advances in sensors, imaging, data mining and warehousing, telemetry, optics and the proliferation of cheap telecommunications networks and cheap mobile sensors offers a solution to this challenge. Combined with advances in complex modeling and analysis, it is possible that we are at the cusp of a new era in environmental monitoring and reporting that is much less expensive, more comprehensive and links to decision support tools and interpretive models that can be used directly by managers.

To realize these exciting possibilities, we need to bring together the appropriate technologists, engineers, entrepreneurs, scientists, managers and investors into a new network of common interest. The aim of the network would be to begin conversations around how these new technologies could be applied, and to seek investment to begin research, development and pilot trials.

Living Laboratories

The philosophy behind "Living Laboratories" is that the current investment in landscape change through Natural Resource Management Programs offers the research community a "laboratory" within which hypotheses can be tested and measurements can be taken at full landscape scale. The Living Laboratories Program is supported by ICEWaRM and DWLBC. For more information

www.livinglaboratories.com.au

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WHEN Tuesday, 12th February 2008, 9.15am - 4.00pm

WHERE National Wine Centre, Hackney Road

RSVP

If you would like to be involved in attending the workshop in person, please contact Amber Welk – awelk@icewarm.com.au by 6th Feb 2008.

Podcast

This workshop will be podcast on the internet, and people who are unable to attend the workshop will be able to download and listen to a selection of the talks and discuss the topics online. Instructions on how to listen to podcasts can be found on the ICE WaRM website under Living Laboratories

Workshop Goal

The goal of the workshop is to begin a conversation around the use of new technologies in environmental monitoring with the aim of forming an informal network of individuals who wish to promote and develop the ideas drawn from the workshop.

Workshop Objectives

- Hear about new technology solutions to environmental monitoring
- Discuss priority areas for further development and research
- Explore the idea of establishing an on-going community of interest in environmental monitoring



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WORKSHOP SCHEDULE

Time	Speaker	Subject
9.15-9.25	Richard Hopkins, ICE WaRM	Welcome and introduction to Living Laboratories
9.25-9.35	Glen Scholz, DWLBC	Challenges in environmental monitoring
9.35-9.50	General Discussion	
9.50-9.55	Paul Dalby, ICE WaRM	Purpose and format of the workshop
	Telemetry and IT	
9.55-10.10	Andrew Skinner, MEA	Environmental Measurements: lessons from 25 years in the Australian Bush
10.10-10.25	Tanya Monro, University of Adelaide	Recent developments in the use of fibre optic cable for environmental monitoring
10.25-10.40	Alfio Grasso, University of Adelaide	RFID and Sensor Networks for Rural Environments
10.40-10.55	Anthony van den Hengel, University of Adelaide	Photosynth and visualization technologies
10.55-11.10	Sandra Leigh, SARDI	Fish passage monitoring
11.10-11.20	General Discussion	
11.20-11.40	Morning tea	
	Modelling and Integration	
11.40-11.55	Jim Rowe, SRA Information Technology	Simultaneous management of large amounts of data from a variety of monitoring programs
11.55-12.10	Peter Toome, Adcon Telemetry Australia	How Convergence is changing the face of environmental monitoring
12.10-12.25	General Discussion	
	Genetics	
12.25-12.40	Jeremy Austin, University of Adelaide	Using genetic traces to monitor environmental processes
12.40-12.55	Maylene Loo, SARDI	Implementation of DNA-based environmental monitoring in marine systems
12.55-1.10	Chris Saint, AWQC	The Environment - The Laboratory of the Future
1.10-1.25	General Discussion	
1.25-2.10	Lunch	
2.10-2.30	What do we need to know next? Brainstorm ideas for new R&D	
2.30-3	Of these, which are the highest priorities? What areas are the potential investors in the room interested in putting resources into?	
3 -3.10	Next steps: Do we want to keep the conversation going? If so, what is the best way to do so?	
3.10	Drinks and nibbles	