



Irrigation Futures Training Series

SOLUTE SIGNATURES Masterclass

Better irrigation decisions through better knowledge and management of the source, transport and fate of solutes in water

This two day masterclass conducted by

Dr Richard Stirzaker, Dr Anne-Maree Boland and Mr Steve Falivene

will give participants

- » Better understanding of concepts and principles of solutes
- » Improved knowledge and use of tools relevant to measuring and analysing solutes
- » Improved quality of thinking and decision making relevant to managing solutes

About Solute Signatures

Solute Signatures looks at the potential to use measured salt and nutrient distribution, or signatures, as a management tool. Water and salt are inseparably linked. In striving for improved irrigation efficiencies the management of salt and nutrients becomes even more critical. New water and solute measuring devices now make it possible to track the fate of water, salt and nutrients in the soil. Making sense of this information will lead to improved irrigation management both for its productive potential and reduced environmental impact of salts in the rootzone.

Participants will take home

- » Documented current understanding of principles and concepts relevant to solutes
- » Resources that detail the latest information
- » Plans for how to apply what they have learned
- » Access to models and tools that can be called on when working with issues relevant to solutes

Content areas to be covered

- » Irrigation in the wider context – from catchment to rootzone
- » Fundamentals of solute movement
- » Monitoring and interpreting two contrasting solutes – EC and nitrate
- » Approaches used with different irrigation systems – overhead, flood, drip and micro
- » Managing water and solutes together
- » Using models to aid learning - eg HYDRUS

Details

Date: 13-14 April 2010

Venue: Melbourne

Cost: Early bird (22 March) \$770 (incl. GST); thereafter \$990 (incl. GST)
CRCIF members and students \$550 (incl. GST)

Cost includes folder, lunches, morning and afternoon teas

Contact: Deborah Atkins 0415 135 457 deborah.atkins@irrigationfutures.org.au

Why this course is important

- » Irrigation professionals need to know the latest thinking and information on the fate of water and solutes below the ground
- » The moves toward micro irrigation, precision irrigation and deficit irrigation requires leaching fractions to be taken seriously
- » The hardware systems able to deliver nutrients precisely to the field are not nearly matched by the ability to understand their fate in the rootzone
- » The increased use of recycled water demands a highly level of precision about the accumulation and movement of solutes

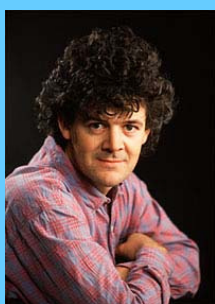
Who should attend this course?

- » Researchers
- » Advisors
- » Policy staff
- » Postgraduate students

Background

Irrigation fails worldwide, not because of a shortage of water, but because the source, transport and fate of the solutes in the water are poorly understood and managed. The amount of salt and other chemicals added to the land, and their passage from rootzone to aquifer, depends largely on the decisions of individual irrigators.

A range on new tools are available for measuring solutes but we are still learning to understand and act on this information.



Dr Richard Stirzaker is a research scientist with CSIRO. He is Project Leader of the Solute Signatures project in CRCIF.

The project is developing monitoring systems and interpretive frameworks for salt and nitrate signatures. This will provide a new way of evaluating the precision of irrigation for production and sustainability.



Dr Anne-Maree Boland is a Partner with RMCG consultants with responsibility for water and NRM projects. She has 20 years experience in natural resource and water management. This includes research and development in water use efficiency, salinity, waterlogging, recycled water and environmental management systems.



Mr Steve Falivene is a district horticulturist with NSW DPI. He leads several research projects, has written several publications and runs training courses for farmers and researchers. His work includes fertigation, open hydroponics and solute measurement.