

Scion Rural Fire Research Group Highlights Jun 2009 – Feb 2010

Research

- Over 100 members of the public were interviewed in Northland and Canterbury during December and January to determine their perceptions and understanding of fire danger messages delivered by NZ fire management agencies. This is ground-breaking work, and is being carried out by David Tappin and Sophie Hide (COHFE), led by Lisa Langer.
- Richard Parker is due to submit his PhD thesis, which contains a substantial proportion of work related to measurement of rural firefighter physiology and productivity. This represents leading-edge technology and science that has attracted international interest (from the USA and Australia in particular).

Collaborations

- Grant Pearce delivered lectures on vegetation fire science and rural fire risk management to postgraduate (Masters-level) students in Fire Engineering at the University of Canterbury, August 2009 and February 2010.
- Lisa Langer will travel to the USA in April to attend the Human Dimensions of Wildland Fires conference in Minneapolis, and to complete the case study work undertaken in New Zealand in 2008 with Dr. Pam Jakes, senior social scientist, USDA Forest Service. The trip will be funded by the USDA Forest Service.
- Stuart Anderson attended a meeting between Scion and the Department of Conservation in Wellington on 1 December 2009 to discuss Scion's capabilities and potential to strengthen collaboration with the Department.
- The Fire Project has had discussions with Dr Tom Wilson and Prof. Jim Cole, Natural Hazards Research Centre, Geological Sciences, University of Canterbury to explore opportunities for collaboration.
- Dr Francisco Moreira, Instituto Superior de Agronomia in Lisboa Portugal, visited Scion in November as part of an EU-funded COST exchange. He worked with the Fire Project on initiatives around post-fire management, landscape-scale fire management planning, as well as general discussions to explore further opportunities for collaboration

Technology transfer

- The New Zealand Science Learning Hub is managed by the University of Waikato and funded by MRST. This is a web-based learning centre, containing extensive resources covering top-class science under a range of topics, aimed at science teachers and students. A new Fire theme has recently been added to the Learning Hub (<http://www.sciencelearn.org.nz/contexts/fire>) covering both urban and rural fires. The Scion Rural Fire Research Group is highlighted throughout this theme, and the content includes video clips of project staff being interviewed on fire topics and other information related to Scion fire research. We have already received informal feedback that there has been considerable interest in this feature from science teachers.
- Scion assisted with delivery of a national Intermediate Fire Behaviour Training Course, in conjunction with the NRFA and DOC, to 21 rural fire managers in Christchurch in September. This was the first course run since 2006, following major revisions and updating of the course content to incorporate latest research outputs and knowledge. Feedback from participants was very positive.

- Lectures were also delivered on fire science and fire danger rating at the Introduction to Principal Rural Officer training course, run by the NRFA in July.

Outputs

- Anderson, S.A.J. 2009. Fuel moisture and development of ignition and fire spread thresholds in gorse (*Ulex europaeus*). MForSc thesis, University of Canterbury.
- Anderson, S.A.J.; Anderson, W.R. 2009. Predicting the elevated dead fuel moisture content in gorse (*Ulex europaeus* L.) shrub fuels. *Canadian Journal of Forest Research* **39**(12):2355-2368.
- Anderson, S.A.J.; Anderson, W.R. 2009. Fire development in gorse (*Ulex europaeus*) shrublands. In: Proceedings, AFAC/Bushfire CRC Conference, 23-24 September 2009, Gold Coast. pp 601-604. CD-ROM.
- Anderson, S.; Newnham, G. 2009. Grassland curing. Presentation to the Bushfire CRC Workshop, "Fire, Fuel and Weather", 22 September 2009, Gold Coast.
- Clifford, V. 2009. Mt Cook Fire Case study. Presentation to the Forest and Rural Fire Association of NZ Annual Conference, Timaru, 6 August 2009.
- Clifford, V.R. & Anderson, S.A.J. Validating the moisture codes of the Fire Weather Index System in New Zealand pine plantation fuels. Scion Report No.44922.
- Clifford, V.R. & Pearce, H.G. 2009. Case study: Mount Cook Station Fire, 16 January 2008. Scion Report No.17031.
- Cottrell, A., Jakes, P.J., Langer, E.R., McCaffery, S.M., McGee, T.K. 2009. Fire agency views of community preparedness for wildfires – a comparison of four nations. Abstract in CD proceedings. Oral paper presented to the 4th International Fire Ecology and Management Congress: Fire as a global process. Savannah, Georgia, USA, 30 November - 4 December 2009.
- Daily, H.; Lane, P.; Bridle, K.; Anderson, S.; Lisson, C.; Gould, J. 2009. Improving senescence algorithms in plant growth models to simulate grassland curing rates. In: Proceedings, AFAC/Bushfire CRC Conference, 23-24 September 2009, Gold Coast. pp 656. CD-ROM. (Poster).
- Jakes, P.J., Langer, E.R., Carroll, M.S. 2009. Kiwis and Yankees – Communities responding to wildfire. Abstract in CD proceedings. Oral paper presented to the 4th International Fire Ecology and Management Congress: Fire as a global process. Savannah, Georgia, USA, 30 November - 4 December 2009.
- Langer, E.R. 2009. Lessons Learned from case studies on community readiness, response and recovery. Presentation to South Island Civil Defence and Emergency Management Officers' Conference, Ashburton, 22 July 2009.
- Langer, E.R., Tappin, D., Hide, S. 2009. Fire danger warning communication in New Zealand: Summary of a study of Rural Fire Authority communications in Northland. Scion, Rural Fire Research Group, Christchurch. Fire Technology Transfer Note 38 (December 2009). 6 p.
- Martin, D.; Grant, I.; Jones, S.; Anderson, S. 2009. Satellite remote sensing as a key tool for grassland curing assessment. In: Proceedings, AFAC/Bushfire CRC Conference, 23-24 September 2009, Gold Coast. pp 692. CD-ROM. (Poster).
- Parker, R. 2009. Wearable sensors to measure productivity and workload in hazardous tasks – tree felling and rural fire fighting. Presentation to the Australian Defence Science and Technology Organisation (DSTO) Human Sciences Symposium, Melbourne, 15-16 September 2009 (awarded prize for the second best presentation)
- Scion. 2009. Case study: Mount Cook Station Fire. Rural Fire Research Update, Issue 5, September 2009.
- Scion. 2009. Thresholds for fire development in gorse. Rural Fire Research Update, Issue 6, December 2009.