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South Australia

**Sansom Institute**  
for Health Research

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## Sansom Institute Visiting Researcher Seminar

**Date:** Wednesday 22 June 2011

**Time:** 4:00pm – 5:00pm

**Place:** PM-06 (northern stairwell  
mezzanine between floors 2 & 3)  
Playford Building  
City East Campus  
University of South Australia  
Frome Road, Adelaide

**RSVP:** 21 June 2011  
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The Sansom Institute for Health Research is pleased to invite you to a Visiting Researcher Seminar.

### **Dr Anthony Brumby**

Peter MacCallum Cancer Centre, Melbourne

#### ***Drosophila models of human cancer***

Dr Brumby has a long-standing interest in using *Drosophila* to model human cancers. Initially working with Prof Rob Saint and Dr Helena Richardson at the University of Adelaide investigating the regulation of cell proliferation, he shifted to the Peter MacCallum Cancer Centre in Melbourne as part of Dr Richardson's laboratory in 2000. Here he developed cooperative tumourigenesis models in *Drosophila* using oncogenic alleles of Ras and Notch that mimic many of the key features of mammalian cancers (Brumby and Richardson, EMBO J, 22:5769-79, 2003). This influential work not only identified important similarities between *Drosophila* and human tumours, but also exposed critical new relationships between cancer-causing signalling pathways and cell polarity regulators with important implications for human cancer (Brumby and Richardson, Nat Rev Cancer, 5:626-39, 2005).

Building upon this work, JNK signalling was identified as a key driver of cooperative tumour overgrowth in *Drosophila* (Leong et al., BMC Biol, 7:62, 2009); and large-scale screens for genes capable of cooperating with oncogenic Ras signalling have further highlighted the importance of JNK to both *Drosophila* and human neoplasias (Brumby et al., Genetics, 188:105-25, 2011). Now the *Drosophila* tumour models are being applied to pioneering large-scale in-vivo chemical screens for novel anti cancer compounds. Through proof-of-principle pilot screening, the compounds have been identified with both good bioavailability and efficacy against human tumor cells, thus demonstrating exciting potential for future drug discovery.