ACE CRC SYMPOSIUM 2018

Climate Science for Australia's Future

August 1
Hobart, Tasmania

08:30 – 09:00 REGISTRATION

09:00 – 09:15 **WELCOME**
Katherine Woodthorpe, ACE CRC Chair

09:15 – 10:00 **ORIGINS**
History of the ACE CRC

Steve Rintoul looks back at what has changed, and what we have learned, about Antarctica and the Southern Ocean since the Antarctic CRC was formed in 1991.

10:00 – 10:30 MORNING TEA

10:30 – 11:15 **LOOKING BACK TO LOOK FORWARD**
Past Changes in Antarctic and Southern Hemisphere Climate

Tessa Vance and Tas van Ommen discuss how ice cores are helping us understand past Antarctic climates, and what this can tell us about Australia's climate history and what this means for the future.

11:15 – 12:00 **THE AWAKENING GIANT**
The Antarctic Ice Sheet and Sea Level

Ben Galton-Fenzi and Sue Cook discuss advances in our ability to observe and simulate the behaviour of the Antarctic ice sheet, and what changes in Antarctica's mass balance could mean for future global sea levels.

12:00 – 13:00 LUNCH

13:00 – 13:45 **THE CLIMATE HANDBRAKE (Part 1)**
Physical Change in the Southern Ocean

Will Hobbs and Steve Rintoul discuss advances in our understanding of the physical processes driving ocean circulation, and what changes in the Southern Ocean could mean for the global climate system.

13:45 – 14:30 **THE CLIMATE HANDBRAKE (Part 2)**
Carbon Uptake and Chemical Change in the Southern Ocean

Andrew Bowie and Delphine Lannuzel discuss the uptake of atmospheric carbon dioxide in the Southern Ocean and how this is changing the complex physical, chemical and biological processes that control Southern Ocean ecosystems and drive the biological carbon pump.

14:30 – 15:15 **THE CLIMATE ENGINE**
Change and Variability in Antarctic Sea Ice

Rob Massom and Alex Fraser discuss how the ACE CRC is combining fieldwork, remote sensing and modelling to improve our understanding of Antarctic sea ice, and its central role in the global climate system.

15:15 – 15:45 AFTERNOON TEA

15:45 – 16:30 **ECOSYSTEM TRENDS AND TIPPING POINTS**
Observing and Modelling Southern Ocean Ecosystems

Andrew Constable and Jess Melbourne-Thomas discuss advances in our understanding of Southern Ocean foodwebs, the importance of international collaborations, and progress toward an end-to-end model to support Southern Ocean ecosystem management.

16:30 – 17:15 **IMPACTS AND IMPLICATIONS**
Australian Climate Futures

Rebecca Harris, Nathan Bindoff and Tomas Remenyi, from the ACE CRC's Climate Futures group, discuss their work with Australian governments and industry to understand and prepare for the impacts of climate change.

17:15 – 17:30 **WRAP UP**
Past Reflections and Future Directions

Katherine Woodthorpe, ACE CRC Chair

17:30 – 19:00 **EVENING EVENT**
Symposium guests are invited to remain at the venue for an informal social event. Refreshments and canapés will be provided.