

AUSTRALIAN ANTARCTIC RESEARCH CONFERENCE

Connecting Australia's polar research community in a rapidly changing world

Hobart, Tasmania • Tuesday 19 - Friday 22 November 2024

• Early Career Researchers (ECR) Day - Monday 18th November

LIGHTNING TALKS

TUESDAY: 1200 - 1225

Name	Poster Title	#
ANTARCTICA IN A CHANGING CLIMATE AND EARTH SYSTEM		
Miss Elka Blackman <i>SAEF, UOW</i>	Assessing long-term changes in Antarctic moss health	1
Mr Wangpeng Gui <i>The University Of MELB</i>	Estimating the basal melting of ice shelves affected by submesoscale dynamics	4
Ms Chao Jiang <i>Monash University</i>	Modelling the internal dynamics of the Amery Ice Shelf, East Antarctica	5
Dr Hongyuan Liu <i>UTAS</i>	High performance modelling of Antarctic iceberg calving with a parallelized hybrid finite-discrete element method	6
A/Prof Laurie Menviel <i>The University of NSW</i>	Impact of changes in Southern Ocean circulation on atmospheric CO2 concentration	7
Dr Tyler Pelle <i>Scripps Institution Of Oceanography</i>	Subglacial freshwater accelerates retreat and the sea level contribution of vulnerable Antarctic glaciers over the 21st century	8
Dr Tamara Schlosser <i>UTAS</i>	Phytoplankton blooms in the Southern Ocean in high vs. low sea ice years	9
Dr Taimoor Sohail <i>University Of NSW</i>	Improving Argo salinity measurements around Antarctica using machine learning	10
Dr Catherine Vreugdenhil <i>University of Melbourne</i>	The Effects of Ocean Dynamics on the Melting of Ice Shelves: a Fine-scale Numerical Simulation Approach	11
Mr Yinghuan Xie <i>UTAS/IMAS</i>	Investigating the Differences in Predicting Marine CO2 Removal with Different Ocean Model Resolutions in the Southern Ocean and Globally	12
THE HUMAN DIMENSION OF ANTARCTICA		
Assoc Prof Patti Virtue <i>ACEAS</i>	Exploring variability in omega-3 levels in Antarctic Krill: Indicators of Southern Ocean health	41
Dr Vanessa Adams <i>UTAS</i>	Building representative MPA networks: MPA planning in the Southern Ocean	40
Dr Isabelle Onley <i>University Of Adelaide</i>	Assessing the ongoing risk and managing detections of non-native invertebrates in the Antarctic region	43
Ms Frances Perry <i>University Of Adelaide</i>	Using eDNA to monitor marine invasion risk in the Southern Ocean	42
Dr Valeria Senigaglia <i>QUT</i>	Geopolitical coalitions and their significance in environmental management and decision-making in the Southern Ocean	45

WEDNESDAY: 1130 - 1200

OTHER ANTARCTIC/SUB-ANTARCTIC/SOUTHERN OCEAN TOPICS

Dr Hannah Dawson <i>IMAS, UTAS</i>	The role of deep ocean warming in Antarctic sea ice loss	48
LCDR Daniel Atwater <i>AAPP/RAN</i>	Sensitivity of Antarctic landfast sea ice under varying atmospheric conditions	53
Ms Katy Baker <i>IMAS/UTAS</i>	A multispecies size spectrum model for assessing carbon sequestration driven by the mesopelagic migrant pump	50
Mr Elio Campitelli <i>Monash University</i>	Frost Impressions of ACCESS-S2 Antarctic Sea Ice Forecast	55
Ms Kelly-anne Lawler <i>Australian National University</i>	Our knowledge of Southern Ocean radiolarians is SO-RAD!	52
Dr Julie McInnes <i>AAD/IMAS</i>	The population status and trends of Macquarie Island vertebrates	57
Dr Steph McLennan <i>Geoscience Australia</i>	Informing environmental management with landscape mapping	54
Ms Talitha Nelson <i>UTAS</i>	The response of East Antarctic phytoplankton to organically bound iron and light	59
Dr Julia Neme <i>UTAS</i>	Building an observational estimate of subpolar gyre strength	56
Miss Paola Papapetros <i>UTAS</i>	The influence of subglacial water laden sediments on ice shelf basal melting	61
Dr Beatriz Peña-molino <i>Csiro</i>	Observing the continental margin in East Antarctica with CPIES: insights from model	58
Miss Sienna Blanckensee <i>The University Of QLD</i>	Overview of Cape Darnley Bottom Water and comparison to other formation sites	2
Dr Mardi McNeil <i>Geoscience Australia</i>	Seabed glacial geomorphology features on the East Antarctic continental shelf: first results from RV Polarstern expedition PS141, EASI-3	86
THURSDAY: 1110 – 1145		
EXTREMES, REGIME SHIFTS AND TIPPING POINTS IN THE ANTARCTIC SYSTEM		
Dr Matthew Adams <i>QLD University Of Technology</i>	Ecological tipping points in Antarctica: how do mathematical models fit in?	112
Mr Jiliang Chen <i>Macquarie University</i>	Can Voluntary Conservation Actions Complement the Consensus Building for MPAs at CCAMLR?	113
Dr Will Hobbs <i>UTAS/IMAS</i>	A regime shift in Antarctic sea ice	114
Ms Johanne Jahnsen Hus <i>UTAS</i>	Ocean turbulent mixing beneath Antarctic sea ice	115
Mr Yu Wang <i>AAPP/IMAS</i>	Subglacial Hydrological Discharge Accelerates Ice Loss and Amplifies Irreversibility in the Wilkes Subglacial Basin, East Antarctica	116
ANTARCTICA'S PAST		
Prof Zanna Chase <i>UTAS</i>	The role of Antarctic sea ice in the Earth System: Perspectives informed by 130,000 years of sea ice records	119
Dr Katharina Hochmuth <i>UTAS</i>	Peeking into East Antarctica's past – Using newly acquired reflection seismic data from RV Polarstern voyage PS-141 (EASI-3-East Antarctic Ice Sheet Instability and its interaction with changes in the Southern Ocean)	120
Max Nilssen <i>AAPP</i>	Evaluating the Twentieth Century Reanalysis Version 3 with synoptic typing and East Antarctic ice core accumulation	122
Mr Ryan North <i>University of Wollongong</i>	Long-term stability of ice sheet thickness around central Antarctic Peninsula nunataks	121
Mrs Jacinda O'Connor <i>SAEF, Monash</i>	Holocene Antarctic ice mass change constrained by near- and far-field relative sea level reconstructions.	124

Ms Alexandra Parrott <i>IMAS</i>	Paleo-productivity changes across glacial-interglacial cycles, Prydz Bay, East Antarctica	123
Mr Corey Port <i>SAEF, Monash</i>	Constraining the behaviour of the Denman-Scott Glacier system, East Antarctica, over the Holocene, using cosmogenic ¹⁰ Be and ¹⁴ C	125
Cari Rand <i>SAEF, EAE Monash</i>	Ice-volume change in the Lambert-Amery system from the Last Glacial Maximum to the present	126
ANTARCTICA'S FUTURE: RESEARCH DIRECTIONS IN THE GLOBAL CONTEXT		
Prof Philip Boyd <i>IMAS</i>	Controls on Southern Ocean Deep Chlorophyll Maxima: viewpoints from multiple observational platforms	204
Dr Poul Christoffersen <i>IMAS</i>	Sea level rise and the delicate question of glacial intervention	201
Ms Caitlin Harvey <i>UTAS</i>	Climate impacts on Australia's Antarctic and subantarctic heritage and future management options	206
Dr Maria Constanza Manassero <i>UTAS, ACEAS</i>	Unravelling the Dynamics of Denman Glacier, East Antarctica: Insights from MT and Integrated Geophysical Investigations	208

THANK YOU TO OUR PARTNERS AND SUPPORTERS

