

Science Early Career Research Summit 2024 Conference Program



08:30 – 09:00	Registration
09:00 – 09:30	Opening address by Associate Professor Jen Martin – Forum 1
09:30 – 09:45	Researcher Development Unit Session – Forum 1
09:45 – 10:00	Library Session – Forum 1

Time	Stream 1A	Stream 2A	Stream 3A
Venue	Forum 1	Forum 2	Forum 3
10:00	Invited: Tim Rabanus-Wallace (SAFES) The C-Value Enigma and Intra-Genomic Symbiosis: A Case Study in Cereal Crop Pathogen Resistance Genes	Invited: Laura Burchill (Chemistry) Charting Metabolic Pathways in Ocean Ecosystems	Invited: Nikolai Dontschuk (Physics) The Diamond Voltage Imaging Microscope
10:20	Hamish Brown (BioSciences) Square beams for electron microscopy dreams	Caitlin Perry (BioSciences) Validating genomic prediction in climate change vulnerability assessment	Jamie Burton (SAFES) Downscaling vapour pressure deficit across complex forested terrain
10:35	Kylie Soanes (SAFES) Unlocking the potential of biodiversity conservation in cities	Zijian Liang (SAFES) Antimicrobial activities of various plant extracts and their synergistic effects with antibiotics against antibiotic-resistant bacteria, and their inhibitory effect on horizontal transfer of antibiotic-resistant genes	Payal Bal (SAFES) Modelling the masses: Framework for assessing nature futures for Australia

11:00 – 11:30	Morning Tea – The Lab and Launch Pad
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Time	Stream 1B	Stream 2B	Stream 3B
Venue	Forum 1	Forum 2	Forum 3
11:30	Invited: Amanda Franklin (BioSciences) Seeing red: Mechanism and function of red vision in animals	Invited: Paola Vaz (Melbourne Vet School) Viral-bacterial coinfections of veterinary respiratory pathogens	Invited: Melissa Saligari (BioSciences) Student and Staff Perspectives of an Assessment Literacy Module to improve academic judgement
11:50	Emma Hudgins (SAFES) Spread management priorities to limit emerald ash borer (<i>Agilus planipennis</i>) impacts to United States street trees	Carolina Munoz (BioSciences) To mules or not to mules? Current prevalence of the mulesing procedure in the Australian sheep industry and general producer's perceptions.	Paul Cheung (SAFES) Cooling benefits of irrigating urban green spaces
12:05	Charles Croft (Chemistry) Extraction of rare earths metals by polymer inclusion materials	Lucas Hackl (Maths and Stats) Typical entanglement for systems with fixed particle number	Felipe Atenas (Maths and Stats) Why optimization methods find the solutions we want?
12:20	Razlin Azman (SAFES) Silicon (Si) mitigates biotic and abiotic stress in legumes under rainfed field conditions.	Waseem Ashfaq (SAFES) Integrating dual-purpose wheat for forage and grain improves whole-farm profitability and environmental performance in Australia's low rainfall zones	Julianna Santos (SAFES) How does pyrodiversity influence small mammal abundance and genetic diversity?

12:35	Emily McColl-Gausden (SAFES) *Speed Talk The Victorian Biodiversity Index: Using a state database to track trends in biodiversity Kawther Ghozlan (SAFES) *Speed Talk Effects of Maltodextrin-and-gum-Arabic Encapsulated Carob Phenolics on Gut Microbiota in vitro Models	Muhammad Sajid Arshad (SAFES) *Speed Talk Antioxidant effect of Sumac (Rhus coriaria L.) extract on the Safety and Shelf Stability of Irradiated Tilapia Fish Fillets Saini Samim (SGEAS) *Speed Talk Volcanoes and Human Origins: How Can Geological Events Help Us Unravel Hominin Evolution	Ze Liang (SAFES) *Speed Talk Food substances alter gut resistome: mechanism, health impacts, and food components
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13:00 – 14:00 **Lunch** – The Lab and Launch Pad

Time	Stream 1C	Stream 2C	Stream 3C
Venue	Forum 1	Forum 2	Forum 3
14:00	Invited – Oliver Eales (Maths and Stats) How immunity shapes the long-term dynamics of influenza H3N2	Lucinda Harrison (Maths and Stats) *Speed Talk Saoirse Kelleher (SAFES) *Speed Talk Assessing performance of covariate selection methods for dynamic occupancy models	Invited – Rob Ryan (SGEAS) Drones and lasers at the Reef: comparing methods for atmospheric boundary layer height retrieval at the Great Barrier Reef
14:20	Sean Kenny (SAFES) The Logic of Innovation: How Institutional Logics shape innovation to address nutrient pollution in the Great Barrier Reef	Kelvin Say (SGEAS) Counteracting the duck curve: Evaluating time-varying pricing for solar PV and battery households	Ellen Cottingham (BioSciences) New Tools to Manage Invasive Species in Australia
14:35	Franciscus Scheelings (Melbourne Vet School) Location matters: variations in gut microbiota composition of spatially separated freshwater turtles	Jennifer Hutchison (BioSciences) Capturing the marsupial uterus in molecular detail: developing models of a dynamic organ	Javeria Jalal (Maths and Stats) Role of steady streaming in the interaction of spherical particles
14:50	Sajitha Biju (SAFES) Enhancing Symbiotic Nitrogen Fixation in Lentil Plants under Drought Stress: Beneficial Effects of Silicon Supplementation	Paul Cheng (SAFES) Sustainable animal production	Anne Wang (SAFES) Leaf nutrients assessment from airborne and spaceborne sensors in almond orchards using radiative transfer and machine learning models
15:05	Fernando Meneses (Physics) High-resolution magnetic imaging of 2D materials	Tomas Poblete (SAFES) Detection of Xylella fastidiosa and Verticillium dahliae infection symptoms using high-resolution satellite data: modelling and assessment with hyperspectral imagery	Bianca Pickering (SAFES) Extending methods for assessing fuel hazard using line intercept and terrestrial laser scanners
15:20	Erica Marshall (SAFES) *Speed Talk Evaluating the effectiveness of bushfire management in Victoria for current and future fire risk	Faezah Ebrahimi (SAFES) *Speed Talk Impact of seaweed polyphenols on gastrointestinal health: gastrointestinal microbiota modulation	Rohan Byrne (SGEAS) *Speed Talk Going rogue: how to save science from itself Ali Imran (SAFES) *Speed Talk Antioxidants and phenolics estimation and LC-ESI-QTOF-MS/MS characterization of different agro industrial waste

15:45 – 16:15 **Afternoon Tea** – The Lab and Launch Pad

16:15 – 16:30 **Science Media Session** – Forum 1

16:30 – 17:00 **Closing address by Prof Moira O'Bryan (Dean – Faculty of Science) and Presentation of Awards** – Forum 1