

## 2024 Completions - Faculty of Science

### **Dr. Lachlan Reece Morris**

(Specialisation: Physics) (Conferred: 11-Jan-2024)

Supercooled cosmological phase transitions: impacts on phase histories and gravitational wave predictions

### **Dr. Javiera Paz Olivares Rojas**

(Specialisation: Ecology) (Conferred: 11-Jan-2024)

Incorporating ecosystems and ecological communities into strategic conservation planning

### **Dr. Aarthi Ramesh**

(Specialisation: Molecular Biology and Molecular Genetics) (Conferred: 11-Jan-2024)

Investigation of alternative strategies for cellular damage rescue and disease correction in Fabry disease and it's in silico prediction using machine learning model

### **Dr. Tanner Alex Wilson**

(Specialisation: Astrophysics) (Conferred: 11-Jan-2024)

Problems in Low-Mass Stellar Rotation

### **Shi Ern Wong**

(Specialisation: Food Science and Technology) (Conferred: 11-Jan-2024)

Moringa Oleifera Protein Isolates: Pre-treatment, in Silico Analysis of Bioactivity, Allergenicity, and Toxicity, and Application in Plant-Based Burgers

### **Dr. Yichen Sun**

(Specialisation: Biological sciences general) (Conferred: 17-Jan-2024)

Investigating Neuroligin Structure and Function at the Drosophila Melanogaster Neuromuscular Junction

### **Dr. Tom Matthew Allison**

(Specialisation: Ecology and evolutionary biology) (Conferred: 24-Jan-2024)

Theoretical and empirical insights into the ecology of oxidative phosphorylation in bilaterian metazoans

### **Dr. Manjiri Pandurang Choudhari**

(Specialisation: Chemistry) (Conferred: 24-Jan-2024)

Synthesis And Characterization Of Polyoxometalate-Organic Architectures As Potential Photochromes And Mediators For Noncovalent Interactions

### **Dr. Jamie Alexander Greer**

(Specialisation: Inorganic chemistry) (Conferred: 24-Jan-2024)

Reducing the entry barrier to heavy alkali metal organometallics

### **Dr. Mahreen Rani Naseer**

(Specialisation: Analytical chemistry) (Conferred: 24-Jan-2024)

Heptakis (6-Thio-6-Deoxy)-Beta-Cyclodextrin As Organic Pollutant Electrochemical Sensor

### **Dr. Tan Phat Nguyen**

(Specialisation: Physics) (Conferred: 24-Jan-2024)

Equilibrium and Transient Broadband THz Conductivity of Gated Graphene

### **Dr. Arman Pili**

(Specialisation: Biological sciences - other) (Conferred: 24-Jan-2024)

Forecasting Biological Invaders And Biological Invasions For Biosecurity Decision Support

**Dr. Pallabi Sinha Roy**

(Specialisation: Materials chemistry) (Conferred: 24-Jan-2024)  
Designing Functional Polymers and Materials from Lignin-derived Molecules

**Dr. Ka Ho Tse**

(Specialisation: Astrophysics) (Conferred: 24-Jan-2024)  
Observations and Models of Nuclear Burning in Accreting Neutron Stars

**Dr. Keat Yi Wong**

(Specialisation: Food Science and Technology) (Conferred: 24-Jan-2024)  
Effect Of Alternative Sweetener And Carbohydrate Polymer Mixtures On The Physical, Nutritional, And Sensorial Properties And Storage Stability Of Dark Compound Chocolate

**Dr. Matthew Gordon Gebert**

(Specialisation: Physics) (Conferred: 07-Feb-2024)  
Dirac Fermions at Interfaces

**Dr. Victoria Florence Sperring**

(Specialisation: Ecology) (Conferred: 07-Feb-2024)  
Conservation management of small, isolated populations: The Norfolk Island Morepork as a case study

**Dr. Tania Sultana**

(Specialisation: Inorganic chemistry) (Conferred: 07-Feb-2024)  
Novel Gallium(III) and Indium(III) Quinolonate Complexes and Their Activity Towards Multi-Drug Resistant Pathogens

**Dr. Pia Jakobus**

(Specialisation: Astrophysics) (Conferred: 21-Feb-2024)  
Equation of State effects in Core-Collapse Supernovae

**Abigail Louise Parker**

(Specialisation: Biology) (Conferred: 21-Feb-2024)  
Factors affecting reproductive success and health in aquatic vertebrates: the role of environmental contaminants and maternal identity

**Wenn Wenn Tang**

(Specialisation: Science) (Conferred: 21-Feb-2024)  
Effect of Arsenic and Phosphate on Microalgae Growth, Nutrient Uptake and the Metabolic Pathways

**Dr. Yiran Zhao**

(Specialisation: Statistics) (Conferred: 21-Feb-2024)  
Tensor-Train Methods for Sequential State and Parameter Learning in State-Space Models

**Dr. Laura Avellaneda Franco**

(Specialisation: Microbiology) (Conferred: 06-Mar-2024)  
How to survive in an aggressive environment? Team up with a phage

**Dr. Pia Franziska Freisen**

(Specialisation: Atmospheric sciences) (Conferred: 06-Mar-2024)  
Impacts on the Southern Hemisphere Hadley Cell Edge in Climate Models

**Dr. Jen How Daryl Lee**

(Specialisation: Chemistry) (Conferred: 06-Mar-2024)

Carbon-based electrodes for water electrolysis

**Dr. Darcy Simondson-Tammer**

(Specialisation: Chemistry) (Conferred: 06-Mar-2024)

Development of efficient and robust electrocatalytic systems for large-scale hydrogen production by low-cost water splitting devices

**Dr. Liam Tomas Yemm**

(Specialisation: Mathematics) (Conferred: 06-Mar-2024)

Polytopal Methods for Irregular Meshes, Singular Situations and Advanced Models

**Dr. Deema Sarmed Sami Khunda**

(Specialisation: Applied chemistry) (Conferred: 20-Mar-2024)

Design and operation of dielectric barrier discharge microreactor for CO<sub>2</sub> Utilization

**Dr. Nguyen Thanh Tung Le**

(Specialisation: Mathematics) (Conferred: 23-Mar-2024)

Kauffman's clock theorem and its generalisation to more complicated structures and surfaces

**Dr. Kar Yan Su**

(Specialisation: Biomedical science) (Conferred: 23-Mar-2024)

Potential role of extracellular vesicles in cisplatin resistance: Autophagy-related markers in extracellular vesicles of oral squamous cell carcinoma cells

**Dr. Thulya Chakkumpulakkal Puthan Veettil**

(Specialisation: Analytical chemistry) (Conferred: 27-Mar-2024)

Vibrational Spectroscopic Approaches for Disease and Metabolic Diagnosis

**Dr. Rupinder Kaur Dhamoon**

(Specialisation: Chemistry) (Conferred: 27-Mar-2024)

Synthesis and Characterisation of Metal-based Antibacterial Responsive Hydrogels

**Dr. Jade Nadine Siock Ang**

(Specialisation: Chemistry) (Conferred: 11-Apr-2024)

Amine-based coordination polymers: design, synthesis, and application

**Dr. Sam Michael Dekkers**

(Specialisation: Physics) (Conferred: 11-Apr-2024)

Searching for Charged Lepton Flavour Violation with the COMET Experiment

**Dr. Audrey Tyler**

(Specialisation: Pure mathematics) (Conferred: 11-Apr-2024)

Ergodic theory of accessible partially hyperbolic endomorphisms

**Dr. Jingming Qian**

(Specialisation: Environmental science) (Conferred: 17-Apr-2024)

The capacity for airport precinct cooling using recycled stormwater irrigation

**Dr. Yi-Hsun Chen**

(Specialisation: Physics) (Conferred: 24-Apr-2024)

Studies of spatial- and momentum-indirect excitons in two-dimensional semiconductors and relevance to exciton condensation

**Dr. Melyssa Lauren Grieve**

(Specialisation: Inorganic chemistry) (Conferred: 24-Apr-2024)

Thiosemicarbazone and Semicarbazone Macrocyclic Chelators for Nuclear Imaging and Therapeutic Applications

**Dr. Thomas Aaron Leatham**

(Specialisation: Physics) (Conferred: 24-Apr-2024)

Applying the Fokker-Planck equation to x-ray phase and dark-field retrieval

**Dr. Sarthak Mohanty**

(Specialisation: Atmospheric sciences) (Conferred: 24-Apr-2024)

Australian Summer Monsoon Rainfall: A Moist Static Energy Budget Perspective

**Dr. Daniel Jamie Victor Robbins**

(Specialisation: Atmospheric sciences) (Conferred: 24-Apr-2024)

Investigating the Radiative Impacts of the 2019-20 Australian Bushfires through Improved Passive Satellite Retrieval Techniques

**Dr. Belinda Roux**

(Specialisation: Atmospheric sciences) (Conferred: 24-Apr-2024)

Understanding the physical processes behind the generation of fog at Perth Airport

**Dr. Christopher Craig Bounds**

(Specialisation: Physics) (Conferred: 08-May-2024)

Quantum spectral analysis by Landau-Zener transitions

**Dr. Sarah Marie Mele**

(Specialisation: Genetics) (Conferred: 08-May-2024)

Drosophila as a Model for Exploring Dietary Treatments for Human Amino Acid Metabolism Disorders

**Dr. Kirti Thakur**

(Specialisation: Chemistry) (Conferred: 08-May-2024)

Amine based Polymer Silica Adsorbents for Remediation of PFAS (Perfluoroalkyl Substances) from Wastewater

**Dr. Darcy Alexander Williamson**

(Specialisation: Inorganic chemistry) (Conferred: 08-May-2024)

Earth Abundant Metallators for Heterocyclic Functionalisation

**Dr. David Morton Adams**

(Specialisation: Biology) (Conferred: 23-May-2024)

Impacts of the incubation environment on embryonic development and hatching success of sea turtles

**Dr. Michael Hugh Bardsley**

(Specialisation: Physics) (Conferred: 23-May-2024)

Progress in numerical methods for cosmological vacuum decay

**Dr. Finella Margaret Dawlings**

(Specialisation: Ecology) (Conferred: 23-May-2024)

Novel use of remote sensors to improve population monitoring and ecological understanding of threatened vertebrates for the purpose of conservation management

**Dr. Hridya Dilip**

(Specialisation: Applied and computational mathematics) (Conferred: 23-May-2024)

Unfitted space-time finite element methods for time-dependent problems on moving domains

**Dr. Callum Graeme Gassner**

(Specialisation: Analytical chemistry) (Conferred: 23-May-2024)

Polarised Fourier Transform Infrared Microspectroscopy: Toward Biomedical Applications

**Dr. Samuel Charles Ginther**

(Specialisation: Ecology and evolutionary biology) (Conferred: 23-May-2024)

Metazoan reproduction: knowledge gaps and syntheses

**Dr. Pei Tee Lim**

(Specialisation: Biochemistry and cell biology) (Conferred: 23-May-2024)

Potential role of TGM2 in cancers: A study based on pan-cancer analysis and its association with resistant oral cancer-derived extracellular vesicles

**Dr. Mitko Oldfield**

(Specialisation: Physics) (Conferred: 23-May-2024)

Electronic, Excitonic and Polaritonic Properties of Hybrid Metal-Halide Perovskites

**Dr. Ashley Elizabeth Potter**

(Specialisation: Ecology and evolutionary biology) (Conferred: 23-May-2024)

The Causes and Consequences of Variation in Sperm Form and Function Across Species

**Dr. Edirimuni Iyomali Abeysekera**

(Specialisation: Chemistry) (Conferred: 05-Jun-2024)

Beyond Biomimicry: The Synthesis and Characterization of precision polymers inspired by nature

**Dr. Kholod Mandoora**

(Specialisation: Applied and computational mathematics) (Conferred: 05-Jun-2024)

Exponential integrators for the investigation of stability of nonlinear waves

**Dr. Calum John Robertson**

(Specialisation: Mathematics) (Conferred: 05-Jun-2024)

Inhomogeneous universes admitting a post-Newtonian approximation

**Dr. Jiahao Wu**

(Specialisation: Mathematics and statistics) (Conferred: 05-Jun-2024)

Deep learning-based methods for deriving price bounds of American-style options and solving reflected BSDEs

**Dr. Chibuzo Gabriel Chukwu**

(Specialisation: Earth sciences) (Conferred: 13-Jun-2024)

Influence of Inheritance in the Evolution of Divergent Triple Junctions

**Dr. Fatemeh Amirpoorsaeed**

(Specialisation: Geology) (Conferred: 20-Jun-2024)

The relationship between craton margin geometry and deformation style in the North Australian Craton

**Dr. Elisabeth Maria Antonia Franziska Borchert**

(Specialisation: Astrophysics) (Conferred: 20-Jun-2024)

Simulating stellar flybys: FU Orionis, the solar system and RW Aurigae

**Dr. Thiago De Paiva Souza**

(Specialisation: Mathematics) (Conferred: 20-Jun-2024)

Knot Theory from Flows

**Dr. Zhijack Fong**

(Specialisation: Biomedical science) (Conferred: 20-Jun-2024)

Study of Chemoresistance Mechanisms and Potential Alternate Therapy in Colorectal Cancers

**Dr. Robert Douglas Hickingbotham**

(Specialisation: Mathematics) (Conferred: 20-Jun-2024)

Exploring sparse and hereditary graph classes via products and tree-decompositions

**Dr. Andres Felipe Leon Rojas**

(Specialisation: Chemistry) (Conferred: 20-Jun-2024)

Synthetic Strategies for the Generation of Molecular Complexity Driven by Gold Catalysis

**Dr. Rahul Mondal**

(Specialisation: Chemistry) (Conferred: 20-Jun-2024)

Synthesis and Reactivity of Exceptionally Bulky Ligand Stabilised Alkaline Earth Metal Complexes

**Dr. Isaac Wei-En Tan**

(Conferred: 20-Jun-2024)

The Dynamics of Cold Surges over the Maritime Continent

**Dr. Gregory Thomas Taylor**

(Specialisation: Ecology and evolutionary biology) (Conferred: 20-Jun-2024)

Sexual ornamentation and male reproductive strategies in the superb fairy-wren

**Dr. Dominic Kennedy**

(Specialisation: Chemistry) (Conferred: 26-Jun-2024)

Developments in Alkaline Earth Hydride Chemistry: Towards Novel Heterobimetallic Complexes

**Dr. Jaidene Ellise Parks**

(Specialisation: Applied chemistry) (Conferred: 26-Jun-2024)

Catalyst Reincarnation: Post-Polymerisation Functionality of Ring-Opening Polymerisation Catalysts as Bioactive Additives in Biomedical Devices

**Victor Kenji Fagundes**

(Specialisation: Pure mathematics) (Conferred: 03-Jul-2024)

Real theta-groups and orbit classification

**Dr. Riley Adam Herron**

(Specialisation: Analytical chemistry) (Conferred: 03-Jul-2024)

Applications of portable and comprehensive gas chromatography-mass spectrometry for the analysis of fentanyl

**Dr. Dominic Sanderson**

(Specialisation: Earth sciences) (Conferred: 03-Jul-2024)

Surface Melt on East Antarctic Ice Shelves

**Dr. Tahlia Louise Fulton**

(Specialisation: Genetics) (Conferred: 23-Jul-2024)

The role of amino acids in stress tolerance

**Dr. Benjamin Jacob Lee**

(Specialisation: Applied and computational mathematics) (Conferred: 23-Jul-2024)

Modelling the Dynamics of Non-Newtonian Thin Liquid Films

**Dr. Ankita Suhas Tulangekar**

(Specialisation: Genetics) (Conferred: 23-Jul-2024)

Identifying the Role of Neutrophils and Myeloperoxidase in a Zebrafish Model of DMD

**Dr. Zaili Wang**

(Specialisation: Chemistry) (Conferred: 23-Jul-2024)

Machine Learning Approach in Density Functional Theory for Enhancing Reaction Energy Estimation

**Dr. Li Wen Wong**

(Specialisation: Biomedical science) (Conferred: 23-Jul-2024)

Development of An Injectable Nanocomposite Hydrogel for Multifunctional Biomedical Applications

**Dr. George Colebrook Jarvis**

(Specialisation: Ecology and evolutionary biology) (Conferred: 31-Jul-2024)

Macroevolutionary patterns in body size, reproduction, and energy use

**Dr. Heerman Kumar A/L Sandra Kumar**

(Specialisation: Genomics and Bioinformatics) (Conferred: 31-Jul-2024)

Investigation of genetic diversity of intestinal parasites and host immune response genes in the Orang Asli community in Malaysia

**Dr. Michelle Dionne Farrelly**

(Specialisation: Chemistry) (Conferred: 15-Aug-2024)

Application of Tuneable Polymer Nanodisc Materials for Investigation and Selective Solubilisation of Biological Membranes

**Dr. Angus Cameron Rogers**

(Specialisation: Geochemistry) (Conferred: 15-Aug-2024)

Enigmatic intraplate basaltic systems: A geochemical investigation of ocean island oddities

**Dr. Yanning Yong**

(Specialisation: Biomedical science) (Conferred: 15-Aug-2024)

Investigating the Conserved CTX-HaCaT Membrane Interaction and Secretome Alteration

**Dr. Zuhaili Binti Yusof**

(Specialisation: Food science and biotechnology) (Conferred: 15-Aug-2024)

Elucidating the Fucoxanthin Degradation Pathway and Studying the Stability of Fucoxanthin in Model Food System

**Dr. Michelle Kathleen Croughan**

(Specialisation: Physics) (Conferred: 28-Aug-2024)

Single-exposure directional dark-field x-ray imaging

**Dr. Jonathan Wilson**

(Specialisation: Biology) (Conferred: 28-Aug-2024)  
The Role of Structural Variation in Adaptation during Invasion

**Dr. Wai Ting Chong**

(Specialisation: Food Science and Technology) (Conferred: 12-Sep-2024)  
Hypocholestrolemic Palm-Based Liquid Coconut Milk Substitute Infused with Nanocrystal Cellulose Derived from Palm Pressed Fiber

**Dr. Jenna Nicole Diehl**

(Specialisation: Ecology) (Conferred: 12-Sep-2024)  
Effects of climatic conditions on nestlings and parental care strategies in a temperate cooperatively breeding songbird

**Dr. Chia-Ping Liao**

(Specialisation: Geochemistry) (Conferred: 12-Sep-2024)  
Origin of the East Sulawesi Ophiolite, Eastern Indonesia: implications for oceanic crust generation and tectonic reconstruction in the Western Pacific

**Meng Wang**

(Specialisation: Soil science) (Conferred: 12-Sep-2024)  
Acid Sulfate Soils in Wetlands Under Temperate Coastal Vegetation Communities in Victoria

**Dr. San San Ang**

(Specialisation: Food Science and Technology) (Conferred: 25-Sep-2024)  
Encapsulation of Hydrophobic Apigenin in Spray-dried Chitosan-coated Liposomes for Improved Physicochemical Properties and Controlled Release

**Dr. Qiang Meng**

(Specialisation: Chemistry) (Conferred: 25-Sep-2024)  
1,2-and 1,4- addition to conjugated acceptors catalyzed by Lewis base

**Dr. Thom Robert Harris-Lee**

(Specialisation: Chemistry) (Conferred: 02-Oct-2024)  
Systematic Development and Characterisation of Photoelectrodes for Light-Driven Water Splitting

**Dr. Belinda Chloe Comerford**

(Specialisation: Biological sciences general) (Conferred: 09-Oct-2024)  
The consequences of variable light regimes for harvested algae

**Dr. Amber Estelle Gentle**

(Specialisation: Pure mathematics) (Conferred: 09-Oct-2024)  
Covering Problems on Permutations

**Dr. Matthew Jack Pearce**

(Specialisation: Physics) (Conferred: 09-Oct-2024)  
Aspects of Particle Cosmology Through the Lens of Gravitational Waves

**Dr. Saxbee James Affleck**

(Specialisation: Ecology) (Conferred: 23-Oct-2024)  
Patterns of trait distinctiveness and their implications for diversity and ecosystem function

**Dr. Matt Joseph Carew**

(Specialisation: Biological sciences - other) (Conferred: 23-Oct-2024)

How is climate change communication being taught in Australian universities? Exploring current practice, barriers, and opportunities

**Vivek Jayasimhan**

(Specialisation: Natural Product Chemistry) (Conferred: 23-Oct-2024)

Bioactivity of *Macaranga bancana* And *Macaranga tanarius* Leaves from Bukit Kiara Hill Walk, Malaysia

**Dr. Chudan Xu**

(Specialisation: Medical science) (Conferred: 23-Oct-2024)

Novel Gut Microbial Metabolites in Hypertension

**Dr. Beenish Zia Butt**

(Specialisation: Microbiology) (Conferred: 06-Nov-2024)

Biogenic Synthesis of Metal Nanoparticles using Extracts from Endophytes and Applications

**Dr. Gabriela Cavalcante De Melo**

(Specialisation: Environmental science) (Conferred: 06-Nov-2024)

Reproduction in contaminated waters: impacts of the antidepressant pollutant fluoxetine on sexual selection in fish

**Dr. Em Thompson**

(Specialisation: Pure mathematics) (Conferred: 06-Nov-2024)

On layered triangulations of 3-manifolds: a motivation, a generalisation, and an application

**Dr. Yeuk Man Movis Choy**

(Specialisation: Ecology and evolutionary biology) (Conferred: 20-Nov-2024)

Evolutionary responses to combinations of thermal and nutritional stress

**Dr. Madeline Leslie Howell**

(Specialisation: Astrophysics) (Conferred: 20-Nov-2024)

Investigating Stellar Mass Loss and Multiple Populations using Asteroseismology of Red Giants in Globular Clusters

**Dr. Amy Lea Thomson**

(Specialisation: Chemistry) (Conferred: 20-Nov-2024)

Designing Peptidomimetics to Investigate the Mechanism of Action of Insulin

**Dr. Jessica Kaye Abbonizio**

(Specialisation: Environmental studies general) (Conferred: 04-Dec-2024)

Poetic narratives of women's leadership in education for planetary health

**Dr. Sangeet Santhosh Kumar**

(Specialisation: Physics) (Conferred: 04-Dec-2024)

Exciton-polaritons and trions in two-dimensional semiconductors

**Dr. Maggie Pui San Sudo**

(Specialisation: Genomics and Bioinformatics) (Conferred: 04-Dec-2024)

Genomic Insights into Southeast Asian weedy rice: Unlocking beneficial gene resources using a pangenome approach

**Dr. Thi Hai Yen Vu**

(Specialisation: Physics) (Conferred: 04-Dec-2024)

Exploring the effects of twist and strain in moire superlattices

**Dr. Andrew James Heinze Cook**

(Specialisation: Mathematics) (Conferred: 11-Dec-2024)

Autoencoders as Dynamical Systems

**Dr. Kah Ern Ten**

(Specialisation: Molecular Biology and Molecular Genetics) (Conferred: 11-Dec-2024)

Insights into RNA modification and gene expression patterns of *Acinetobacter baumannii* during infection in *Galleria mellonella*

**Dr. Michaela Mahogany Helen Wawryk**

(Specialisation: Biogeochemistry) (Conferred: 11-Dec-2024)

Activity and interactions of cable bacteria

Dr. Luke Christopher Darveniza

(Specialisation: Chemistry) (Conferred: 27-Nov-2024)

Development of hY1R Specific Peptide-Drug Conjugates for the Treatment of Breast Cancer