



MRIWA

EDUCATION PROGRAM

PHD SHOWCASE 2024

Wednesday 9 October

4:30pm - 8:00pm

BEAUMONDE ON THE POINT



The MRIWA Education Program attracts exceptional students from across Australia and around the world, and supports their research and professional development to produce skilled graduates with the capacity to drive innovation in the mining industry.

Tonight, we proudly support 7 MRIWA scholars and one CEED student in presenting their research addressing some of the challenges and opportunities facing WA mining.



Pictured (L-R) MRIWA PhD Scholar Yamini Kannappan, MRIWA PPO Melissa Cianfrini, MRIWA PhD Scholar Emad Al-Hemyari, the Hon. David Michael MLA, Minister for Mines and Petroleum; Ports; Road Safety; Minister Assisting the Minister for Transport, MARS Program PhD Scholar Michael Ajith, MRIWA PhD Scholar Sistine Sun, MRIWA RPM Geoffrey Batt and MRIWA Chair Miriam Stanborough at the 2024 MRIWA Scholarship Induction event, Parliament House.

Foreword



Dr Melissa Cianfrini

Acting MRIWA Research Portfolio Manager
Education Program Lead

PHD SHOWCASE 2024

The MRIWA PhD Showcase is an annual event which celebrates the exceptional minerals research being led by our students. This event provides the opportunity for our PhD scholarship recipients to present their research to a diverse audience, putting into practice their learnings from participating in the suite of masterclasses as part of the MRIWA Education Program, such as science communication, and brand development. These professional development activities equip MRIWA PhD students with the toolkit they need to move across academia, industry and government.

Being in a state that has a world leading minerals industry, this advantage positions MRIWA PhD students to be at the forefront of innovative research which drives the advancement of the minerals sector. The drive for novel and dynamic approaches to minerals research is crucial more than ever, with the need to develop responsible mining practices and techniques which cause minimal disruption to the environment and communities. There is also a great demand for pioneering minerals research to map out the pathway to emissions reduction and achieving Net Zero mining.

Tonight's event provides the platform to showcase the cutting-edge research being conducted by our PhD students. MRIWA is proud to be supporting these emerging leaders in minerals research.

Dr Melissa Cianfrini
*Acting MRIWA Research Portfolio Manager
Education Program Lead*

Agenda

- 5.00pm** **Welcome**
Acknowledgement of Country
Opening speech by the Hon. David Michael MLA (via Video)
- 5.15pm** **3-minute PhD Student Presentations:**
- Alex Eves
 - Hyunjin Na
 - Yamini Kannappan
 - Bishenka Mahaulpatha
 - Henri Scaffidi
 - Sistine Sun
 - Emad Al-Hemyari
 - Kylie Blackwell
- 5.50pm** **Panel Discussion**
MRIWA Board Chair Ms Miriam Stanborough, AM
with panellists:
- Kylie Blackwell
 - Bishenka Mahaulpatha
 - Yamini Kannappan
- 6.05pm** **Alumnus Presentation**
- Dr Cam Adams, CSIRO
- 6.15pm** Closing Remarks
Networking & Poster viewing
- 8.00pm** Event concludes

Panel Discussion & Alumnus Presentation



Ms Miriam Stanborough AM
MRIWA Board Chair

Ms Miriam Stanborough became Chair of MRIWA in January 2020.

Miriam is a chemical engineer with more than 20 years' experience in the minerals processing industry, across commodities including copper, uranium, gold, silver, alumina, lithium, salt, vanadium and mineral sands.

Miriam has held roles in technical development, production management, project management, business improvement, HR & diversity strategy, and sales and marketing.

She holds additional degrees in Arts and Mineral Economics, is a member of the Australasian Institute of Mining and Metallurgy and is a graduate of the Australian Institute of Company Directors.

Miriam's other current board roles include Non-Executive Director of Pilbara Minerals, BCI Minerals and Australian Vanadium, Director of ChemCentre and Deputy Chair of the Northern Agricultural Catchments Council. With her husband, she runs a beef cattle operation in the south-west of WA.



Dr Cam Adams
CSIRO

Cam is a past MRIWA-scholarship recipient and has a PhD in applied geophysics and geochemistry from the University of Western Australia. He also has a first-class honours degree in geophysics and geology from Macquarie University. Cam has enjoyed a diverse career and has worked as an industry greenfields exploration geophysicist, a hard rock petrophysical consultant, a geochemical consultant (specialising in X-ray fluorescence and visible-near infrared technologies), and an academic geophysical and petrophysical researcher, including at the University of Western Australia and University of Newcastle. Aside from his geoscience credentials, Cam has qualifications in finance and has worked both in public practice and, more recently, as a R&D tax incentives specialist at Ernst & Young where he directly advised numerous clients to access >\$50 million in R&D tax incentive benefits.

Cam is currently a Research Scientist at the CSIRO and works in the integrated petrophysics-geochemistry-mineralogy space.

MRIWA PhD Student Presenters



Alex Eves

2023 MRIWA Odwyn Jones PhD Scholarship

PPETROGENESIS AND TECTONO-METALLOGENIC SIGNIFICANCE OF THE SPEEWAH TI-V DEPOSIT, HART-CARSON LIP, WESTERN AUSTRALIA

An integrated geological, mineralogical, geochemical and isotope study to determine the petrogenesis and metallogenic significance of the 4.7 billion tonne Speewah V-Ti Deposit - a world-class orthomagmatic deposit and associated PGE+Au reef in the Hart-Carson Large Igneous Province, East Kimberley Region of Western Australia.



Bishenka Mahaulpatha

2022 MRIWA PhD Scholarship for Women

FEASIBILITY OF EFFECTIVE METAL RECOVERY FROM TAILINGS MATERIAL VIA ELECTROKINETIC IN-SITU RECOVERY (EK-ISR)

This PhD project is the first systematic investigation of applying electrokinetics to extract metals from tailings waste material. It could provide high environmental and economic benefits for Western Australia and globally, as it will reduce the environmental risks posed by tailings dams while allowing the recovery of critical metals.



Henri Scaffidi

MRIWA CEED Scholar

RETRIEVAL AUGMENTED GENERATION ON LARGE TECHNICAL REPORTS

This project utilises Retrieval Augmented Generation to process MRIWA's technical reports, allowing users to query this knowledge base using natural language. This approach can unlock the value embedded in these historical documents, integrate it with current information, and foster new insights in the WA minerals industry.

MRIWA PhD Student Presenters

Sistine Sun

2024 MRIWA PhD Scholarship



THE UNINTENDED EFFECTS OF CARBON EMISSION POLICY: INTERNATIONAL EVIDENCE FROM THE PARIS AGREEMENT

Sistine's research explores tax avoidance in response to rising carbon reduction costs in Western Australia's high-emission industries, like mining. By examining firms' financial strategies, she aims to highlight the societal impact of tax avoidance on sustainability, government revenues, and responsible resource management, contributing to a sustainable future for Western Australia.

Hyunjin Na

2023 MRIWA PhD Scholarship for Women



DEVELOPMENT OF CEMENTATION-MAGNETIC SEPARATION FOR SULFIDE MINERAL PROCESSING AND AMD PREVENTION

Hyunjin's current research is about simple, flexible technologies for separating sulfide minerals. Her work has a potential economic benefit through increased mineral recovery and improved environmental outcomes by re-processing tailings left behind after mining.

Emad Al-Hemyari

2024 Odwyn Jones PhD Scholarship



DATA PROCESSING AND INVERSION FOR SEISMIC WHILE DRILLING AND MINING USING DISTRIBUTED ACOUSTIC SENSING AND MACHINE LEARNING

The research project focuses on developing non-invasive techniques for the processing and analysis of continuously recorded passive seismic data utilising Distributed Acoustic Sensing (DAS). A range of physics-based approaches and machine learning algorithms will be explored to extract subsurface information, providing critical insights for data-driven decision-making in resource exploration.

MRIWA PhD Student Presenters



Kylie Blackwell
2022 Odwyn Jones PhD Scholarship

CO-EXTRACTION OF TELLURIUM FROM GOLD ORES

Improving our understanding of precious metal telluride flotation and using this to create a telluride rich concentrate suitable for downstream processing to produce a saleable tellurium product. Co-extraction of gold and tellurium from the Golden Mile operations opens up opportunities to create new products from an untapped tellurium resource.





Yamini Kannappan
2024 MRIWA PhD Scholarship for Women

EXTRACTION OF RARE EARTH ELEMENTS FROM SUB-ECONOMICAL ORES AND PROCESS TAILINGS

Developing an environmentally friendly method to extract rare earth elements (REEs) from low-grade REE ores and process tailings using green solvents. This will unlock low-grade Western Australian REE reserves, increasing the global supply of these critical elements and creating value for Western Australia.

MRIWA's additional PhD Student cohort:

2024

-  Muzammil Khan
-  Michael Ajith

2023

-  Daniel Goldstein
-  Nilan Jayasiri Mudiyansele

2021

-  Alexandra Halliday
-  Liz Wall

2020

-  John Grigson
-  Tyler Bikaun

2019

-  Gabriel Gonzalez
-  Xingjie Chen

2018

-  Kudzai Angeline Mchibwa

 MRIWA PhD Scholarship

 MRIWA Scholarship for Women






 MARS Program PhD Scholarship

 MRIWA Odwyn Jones PhD Scholarship



 ITTC in Transforming Maintenance through Data Science

MRIWA ALUMNI



2023

-  Dr Martin Ralph
-  Dr Yihao Fu
-  Dr Keith Giglia
-  Dr Zela Ichlas
-  Dr Devika Bhatia

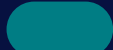


2021

-  Dr Cam Adams
-  Dr Harry Watts

2020

-  Dr Rashid Geranmayeh Vaneghi
-  Dr Eunjoo Choi

2019

-  Dr Evelien Martens
-  Dr Stefano Caruso
-  Dr Ashley Uren

-  MRIWA PhD Scholarship
-  MRIWA Women in Mining PhD Scholarship
-  MRIWA Directors' Scholarship



Thank you for your continued support & together with you, we look forward to an exciting new year of PhD research.

To keep in touch with our latest news, sign up to our **MRIWA newsletter** here:



**SCAN
QR CODE**



GOVERNMENT OF
WESTERN AUSTRALIA



mriwa
Minerals Research Institute
of Western Australia

1 Adelaide Terrace
East Perth WA 6004

+61 8 6180 4340
events@mriwa.wa.gov.au