



THE UNIVERSITY  
of ADELAIDE



Faculty of Engineering, Computer and Mathematical Sciences

## ARC PHD SCHOLARSHIP

## TELLURIUM AND SELENIUM

## BEARING PHASE ASSEMBLAGES

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Up for a challenge? Join us to work on a research project with the School of Civil, Environmental & Mining Engineering

### At a Glance

#### Who can apply?

- Australian Citizens & Permanent Residents
- New Zealand Citizens
- Permanent Humanitarian Visa Holders
- Onshore International students
- International applicants

#### Industry partner or funding body

- Australian Research Council

#### Program of Study available

- Doctor of Philosophy (PhD)

#### Total annual stipend amount

- \$28 854pa (2022 rate, indexed)

#### Start date

- Ideally, no later than 31<sup>st</sup> March 2022.

#### About the project

The potential economic production of by-product selenium (Se) and tellurium (Te) from existing mining-processing-refining operations has attracted interest due to rapidly increasing demand for these commodities. For tellurium, increased demand is linked to their applications in solar panels and as a semiconductor.

In copper processing-refinery operations, the two elements report to flotation concentrates (smelter feed). After smelting, the majority of Se and Te contained in the ore accumulates within anode slimes following electrorefining. There thus exists an opportunity for economic recovery of the two elements from anode slimes, subject to comprehensive characterisation of anode slimes.

[adelaide.edu.au](http://adelaide.edu.au)

This project will undertake mineralogical and chemical investigation of slimes from the Olympic Dam copper refining facility, South Australia. Emphasis is placed on the speciation of Se and Te within the slimes, the nano- to micron-scale relationships between coexisting phases, and the physical state of unwanted components that need to be removed. Comprehensive characterisation represents an important pre-requisite for development of innovative methodologies for potential future recovery of these elements.

### Eligibility criteria

- Applicants should have a Masters or B(Hons.) degree in minerals engineering, geosciences or materials science.
- Interest in microanalysis and materials characterization.
- Well-developed written and verbal communication skills and commitment to work in a multi-disciplinary research team.

### Benefits

- Access to authorised travel and research project funds available
- Work alongside world leading researchers
- Our CaRST program: Free professional development to enhance your employability skills
- Exposure to industry networks and experts in the field
- No Tuition fees! These are waived for eligible candidates
- Access state of the art technology
- Become a field expert and make a real and contribute to solving global challenges
- Publish your contributions and impact our communities and society.

### How to apply

- Complete an [expression of interest](#) and email together with a copy of your CV and transcripts to [nigel.cook@adelaide.edu.au](mailto:nigel.cook@adelaide.edu.au)
- Once your initial eligibility assessment is approved, formally lodge an application for admission only via the Adelaide Graduate Centre 'How to Apply' [link](#). **Application dates are listed on the website.**

### Researcher Profiles

- Use our [Researcher Profiles](#) to find out more about potential supervisors

### More about ECMS

The Faculty of Engineering, Computer and Mathematical Sciences is home to world-class research institutes and centres, and internationally renowned academics at the cutting edge of research and discovery.

We are a thriving centre of learning, teaching and research in a vast range of engineering disciplines, computer science, machine learning and high-level mathematics as well as designing Human-centred, sustainable futures in our School of Architecture and Built Environments.

Many of our academic staff are leaders in their fields and graduates are highly regarded by employers.

Learn more about the Faculty of Engineering, Computer and Mathematical Science's Research capabilities at: <https://ecms.adelaide.edu.au/research-h-impact>

**The University of Adelaide is an Equal Employment Opportunity employer. Women and Aboriginal and Torres Strait Islander people who meet the position requirements are strongly encouraged to apply.**

### FURTHER INFORMATION

#### For a confidential discussion contact:

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