Postgraduate opportunity (Project A)

We are seeking an outstanding candidate with a background in geology and/or isotope chemistry to undertake a programme of PhD level research within the project “Trace elements in iron oxides: deportment, distribution and application in ore genesis, geochronology, exploration and mineral processing”. This is a new project financed by BHP Billiton (Olympic Dam) and the South Australian Mining and Petroleum Services Centre of Excellence. You will be part of group of researchers, hosted by the School of Chemical Engineering and the Institute of Mineral and Energy Resources (IMER).

In some iron-oxide-copper-gold (IOCG) ore systems, including Olympic Dam, South Australia, the iron oxides, hematite and magnetite, have been shown to contain anomalous concentrations of uranium and lead thus facilitating the development of new geochronometers with potentially wide applications in geoscience. The project will focus on the preparation and testing/validation of a matrix-matched iron-oxide standard for routine in-situ geochronological analysis of Fe-oxides, and application of these methods to IOCG systems in South Australia and elsewhere. Interest and demonstrated skills in geochronology and ore deposit geology would be an asset. We expect the candidate to share our commitment to an interdisciplinary project and be able to deliver innovative solutions to the practical problems of sample preparation and standard fabrication.

The student will be expected to work independently and under supervision of project participants in a number of different institutions. You will be working extensively with Scanning Electron Microscopy (SEM), Laser-Ablation Inductively-Coupled Plasma Mass Spectrometry and Dual Beam Focussed Ion Beam – SEM techniques. The successful candidate will be expected to publish results in leading academic journals and present their findings at internal project meetings and at national and international conferences.

You will also be expected to travel extensively as a significant part of the research will be undertaken at external laboratories, including SHRIMP use of facilities (John de Laerter Centre, Curtin University) and Isotope Dilution Thermal Ionisation Mass Spectrometry and multi-collector LA-ICP-MS facilities (National Isotope Geoscience Laboratory, U.K.).

The position is open with immediate effect but must be filled by 1st January 2016. Please contact Dr. Cristiana Ciobanu for further information about the project, and terms and conditions of the PhD project (Cristiana.ciobanu@adelaide.edu.au; +61 (0)8 8313 1273). The Adelaide Graduate Centre (http://www.adelaide.edu.au/graduatecentre/) can advise prospective candidates about postgraduate study at the University of Adelaide. Although scholarships may be available within the project, all prospective candidates will be expected to apply for competitive Australian and University postgraduate research scholarships. International students are encouraged to apply. Information about applications for admission and scholarships including deadlines can be found online here.
Postgraduate opportunity (Project B)

We are seeking an outstanding candidate with a background in mineralogy and/or geochemistry to undertake a programme of PhD level research within the project “Trace elements in iron oxides: deportment, distribution and application in ore genesis, geochronology, exploration and mineral processing”. This is a new project financed by BHP Billiton (Olympic Dam) and the South Australian Mining and Petroleum Services Centre of Excellence. You will be part of group of researchers, hosted by the School of Chemical Engineering and the Institute of Mineral and Energy Resources (IMER).

The project will address the mineralogy and chemistry of hematite and magnetite in the Olympic Dam iron-oxide-copper-gold (IOCG) ore system, South Australia, and adjacent prospects. The objective is to determine the geochemical signature of Fe-oxides, and correlate the trace element chemistry of Fe-oxides at the micron- to nanoscale with the spatial and temporal evolution of the deposit. Results carry implications for understanding ore genesis at Olympic Dam and for models of regional metallogeny. Outcomes will also impact on other postgraduate projects being carried out in parallel, including the development of new iron-oxide geochronometers, the application of multivariate statistics in mineral exploration in the region, and potentially, also in ore processing.

The student will be expected to work independently. An Interest and demonstrated skills in mineralogy and ore deposit geology would be an asset. You will be working in World-class microscopy and microanalysis laboratories housed by Adelaide Microscopy, using Scanning Electron Microscope (SEM), Laser-Ablation Inductively-Coupled Plasma Mass Spectrometry and Dual Beam Focussed Ion Beam – SEM techniques, as well as a newly-acquired state-of-the-art Transmission Electron Microscope. The successful candidate will be expected to publish results in leading academic journals and to present their findings at internal project meetings and at national and international conferences. We also expect the candidate to share our commitment to an interdisciplinary project.

The position is open with immediate effect but must be filled by September 2015. Please contact Dr. Cristiana Ciobanu for further information about the project, and terms and conditions of the PhD project (Cristiana.ciobanu@adelaide.edu.au; +61 (0)8 8313 1273). The Adelaide Graduate Centre (http://www.adelaide.edu.au/graduatecentre/) can advise prospective candidates about postgraduate study at the University of Adelaide. Although scholarships may be available within the project, all prospective candidates will be expected to apply for competitive Australian and University postgraduate research scholarships. International students are encouraged to apply. Information about applications for admission and scholarships including deadlines can be found online here.
Postgraduate opportunity (Project C)

We are seeking an outstanding candidate with a background in mineralogy and/or geochemistry to undertake a programme of PhD level research within the project “Trace elements in iron oxides: deportment, distribution and application in ore genesis, geochronology, exploration and mineral processing”. This is a new project financed by BHP Billiton (Olympic Dam) and the South Australian Mining and Petroleum Services Centre of Excellence, in conjunction with a number of other companies with iron ore interests in the region. You will be part of group of researchers, hosted by the School of Chemical Engineering and the Institute of Mineral and Energy Resources (IMER).

The project will address the mineralogy and chemistry of hematite and magnetite in massive sediment-hosted banded iron formations (BIF) and other iron-oxide-bearing ore systems in South Australia. The objective is to determine the geochemical signature of Fe-oxides in different types of ore and to correlate these chemical patterns with the spatial and temporal evolution of South Australia. Results carry implications for the development of regional metallogenic models. Outcomes will also impact on other postgraduate projects being carried out in parallel, including analogous studies of Fe-oxides in the Olympic Dam iron-oxide-copper-gold system, the development of new iron-oxide geochronometers, the application of multivariate statistics in mineral exploration in the region, and potentially, also in ore processing.

The student will be expected to work independently. An Interest and demonstrated skills in mineralogy and ore deposit geology would be an asset. You will be working in World-class microscopy and microanalysis laboratories housed by Adelaide Microscopy and addressing trace element chemistry of Fe-oxides at the micron- to nanoscale using Scanning Electron Microscope (SEM), Laser-Ablation Inductively-Coupled Plasma Mass Spectrometry and Dual Beam Focussed Ion Beam – SEM techniques, as well as a newly-acquired state-of-the-art Transmission Electron Microscope. The successful candidate will be expected to publish results in leading academic journals and to present their findings at internal project meetings and at national and international conferences. We also expect the candidate to share our commitment to an interdisciplinary project.

The successful applicant should be in a position to start their research by September 2015. Please contact Dr. Cristiana Ciobanu for further information about the project, and terms and conditions of the PhD project (Cristiana.ciobanu@adelaide.edu.au; +61 (0)8 8313 1273). The Adelaide Graduate Centre (http://www.adelaide.edu.au/graduatecentre/) can advise prospective candidates about postgraduate study at the University of Adelaide. Although scholarships may be available within the project, all prospective candidates will be expected to apply for competitive Australian and University postgraduate research scholarships. International students are encouraged to apply. Information about applications for admission and scholarships including deadlines can be found online here.
**Postgraduate opportunity (Project D)**

We are seeking an outstanding candidate with a background in applied statistics and, ideally, an interest in earth sciences, to undertake a programme of PhD level research within the project “Trace elements in iron oxides: deportment, distribution and application in ore genesis, geochronology, exploration and mineral processing”. This is a new project financed by BHP Billiton (Olympic Dam) and the South Australian Mining and Petroleum Services Centre of Excellence. You will be part of an interdisciplinary group of researchers, hosted by the School of Chemical Engineering, the School of Mathematical Sciences, and the Institute of Mineral and Energy Resources (IMER).

The project will involve the development and application of novel multivariate statistical methods to understand numerical patterns within trace element datasets for iron-oxides from a number of mineral systems in South Australia. The objective is to model the geochemical signatures of Fe-oxides in different types of ore. Results carry implications for the development of innovative technologies for mineral exploration in the region. Outcomes will also play into development of regional metallogenic models.

The student will be expected to work independently and with a supervisory team offering complementary backgrounds in mathematics/statistics and mineralogy/geology. We also anticipate a strong degree of interaction with other PhD projects within the research group. The successful candidate will be expected to publish results in leading academic journals and to present their findings at internal project meetings and at national and international conferences.

The successful applicant should be in a position to start their research by January 2016. Please contact Dr. Cristiana Ciobanu for further information about the project, and terms and conditions of the PhD project (Cristiana.ciobanu@adelaide.edu.au; +61 (0)8 8313 1273). The Adelaide Graduate Centre (http://www.adelaide.edu.au/graduatecentre/) can advise prospective candidates about postgraduate study at the University of Adelaide. Although scholarships may be available within the project, all prospective candidates will be expected to apply for competitive Australian and University postgraduate research scholarships. International students are encouraged to apply. Information about applications for admission and scholarships including deadlines can be found online [here](http://www.adelaide.edu.au/graduatecentre/).