RTP2021 R2 Light Emitting Lanthanoid Materials

Status: Open
Applications open: 15/07/2020
Applications close: 1/09/2020

About this scholarship

Description/Applicant information
The lanthanoids lurk at the bottom of the Periodic Table and are sometimes forgotten, despite the fact that they have important magnetic and light-emitting properties that are vital for many technologies (for example, your smart phone most likely contains at least six different lanthanoids). This project is focused on understanding how lanthanoid complexes emit light – we want to make materials that do this more efficiently, and we can only do that if we understand the underlying processes. To do this, we need to control the coordination chemistry of these fascinating metal ions. You will be making new lanthanoid complexes with targeted structures and properties. You will develop skills in organic synthesis of ligands; inorganic synthesis of lanthanoid complexes; characterisation using crystallography, NMR, IR, UV/Vis, and fluorescence spectroscopies. The ligands of interest are of varying complexity, with the common characteristics that they need to bind to lanthanoid cations, and act as an “antenna” that captures light and transfers the resulting energy to the metal centre. By synthesizing and characterizing a systematic series of complexes, you will develop a clearer understanding of the photophysics of these materials, which will provide the basis for designing more efficient light emitting devices.

Jointly supervised by Prof. Mark Ogden, and Assoc. Prof. Max Massi, you will join a thriving research group, with outstanding facilities for synthetic chemistry and photophysical measurements. You will enjoy the benefits of the group’s national and international collaborative links, with opportunities to spend time in other locations building your research outcomes and professional network.

Student type
- Future Students

Faculty
- Faculty of Science & Engineering
  - Science courses

Course type
- Higher Degree by Research

Citizenship
- Australian Citizen
- Australian Permanent Resident
- New Zealand Citizen
- Permanent Humanitarian Visa
- International Student

Scholarship base
- Merit Based

Value
Total value of the annual scholarships (stipend and fees) is approx. $60,000 - $70,000 p.a.
Curtin PhD Stipends are valued at $28,092 p.a. for up to a maximum of 3.5 years.
Successful applicants will receive a 100% Fee offset.

Scholarship Details

Maximum number awarded
1

Eligible courses
All applicable HDR courses
Eligibility criteria
Candidate for this PhD scholarship is expected to:
- English language IELTS level of: 6.5
- Future Higher degree by research applicants
- Honours or Masters degree in Chemistry or related discipline
- Research experience

Enrolment requirements
Eligible to enrol in a Higher Degree by Research Course at Curtin University by March 2021

How to apply

Application process
To apply for this project opportunity applicants must submit an email to the contact Project lead listed below. The email must include their current curriculum vitae, a summary of their research skills and experience and the reason they are interested in this specific project.
The Project Lead will select one preferred applicant for this project and complete a Primary reference on their behalf.
After confirmation from the Project Lead that they will receive a primary reference for this project, the applicant must submit an eApplication for admission into the applicable HDR course no later than 1st September 2020.
All applicants must send an external referee template to their chosen external reference.
All references are confidential and must be submitted by the referee directly to HDRSCH-applications@curtin.edu.au no later than 1st September 2020.
Scholarship applications submitted without a primary reference or a completed application for admission will be considered incomplete.
For further information on the application process or for more RTP2021 Round 2 scholarship project opportunities visit: https://scholarships.curtin.edu.au/hdr-scholarships-funding/rtp-policy/

Need more information?

Enquiries
To apply for this project opportunity email your current curriculum vitae, a summary of their research skills and experience and the reason you are interested in this specific project to:
Name: Mark Ogden
Email: m.ogden@curtin.edu.au
Contact Number: 08 9266 7265