Emulsion Polymers (UNSW - Industry Masters Scholarship)

****ARC Training Centre - Chemical Industries

**Botany, NSW 2019**

**$30,000 - $34,999**

**Science & Technology** Materials Sciences

* Get paid while you train doing industry-based post graduate research
* Focus on real-world, commercial research challenges linking Uni and Industry
* Pathway into industry via a collaborative partnership between industry and University

Industry-Based Masters Opportunity (with stipend), Lab and Plant activities on Acrylic Emulsions with Allnex and UNSW at the Allnex Botany facility.

**Term**

**Full Time, Fixed Term, Minimum of 18 months and Maximum of 24 Months**

**About the business**

Allnex is the largest industrial coating resins company in the world with a very broad and innovative product range and state of the art technology portfolio. They develop and manufacture resins, additives and cross-linking agents for architectural, industrial, protective, and automotive applications.

Allnex is a great company to work at because of its global footprint, with a culture of diversity which prioritises open communication, customer focus, results oriented and entrepreneurial behaviours. These values are reflected in this opportunity, where Allnex is working with the UNSW to create an opportunity for a Masters candidate to develop their career with access to real-world industry research capability in a supported environment.

**About the role**

* Undertake an evolutionary operation (EVOP) experimental design research approach to evaluate the effect of modifications to emulsion polymer manufacturing of dispersions (paints and coatings).
* Evaluate changes to emulsion polymerisation processes used in the dispersion applications (paints and coatings)
* Build on internal knowledge about existing processes for ongoing variation, improvement and development of new and existing products
* Successfully completing course units for the Master’s degree, mainly via online study completed in your own time, but also with some face to face lectures / training at UNSW, Kensington campus.

**Key tasks and responsibilities**

* Hands on Chemistry using lab scale glassware plant scale reactors, along with solvents and chemical compounds.
* Conduct plant scale manufacturing trials supported by laboratory scale manufacturing & synthesis experiments, along with background literature reviews.
* Testing experimental and plant trial outcomes in various applications.
* Regularly report and present results and findings to colleagues for feedback and ongoing development of the research. This reporting cycle is critical to success.
* Completion of a written Master’s thesis.
* Completion of online and face to face Master’s course units including compulsory Occupational Health and Safety.

**Skills and experience**

* Bachelor’s degree in chemistry, materials science or chemical engineering (with or without Honours) with minimum scores of 75%.
* Previous industry would be advantageous
* Study/learning with some understanding in emulsion polymer chemistry as it applies to paints and coatings.
* Ability to use or quickly learn to use chemistry analytical and characterisation methods such as (not including all) pH and viscosity and particle size measurement, FTIR, DSC, DMA and TGA.
* Application of Standards such as ASTM or AS/NZS to assess experimental outcomes.
* Strong analytical and problem-solving skills Practical and able to see innovative solutions to problems Self-managed and able to deliver to deadlines with competing priorities and projects. Good interpersonal and communication skills with emphasis on achieving results through teamwork

**Benefits and perks**

The outcome is a Post Graduate Degree - Masters, with Industry experience!

You will be in a very supportive learning and applied research environment having team including people from both Allnex and the UNSW (Prof Martina Stenzel) with you.

This is an opportunity for you to impress a possible future employer and for you to evaluate Allnex as company with whom you would like to work!

This is a growth and development opportunity because it offers:

* Skills development and further training in the chemistry/chemicals industry.
* Research training and practice by well credentialed and accomplished professionals in a professional environment.
* Participation in addressing real-world commercial challenges.
* Ongoing education within the UNSW Masters course.

**Eligibility**

* Australian citizen or have an Australian permanent residency visa.
* Meet the UNSW entry requirements which include English-language skills.
* Scholarship holders must be enrolled full-time.

**Applications**

For further information please contact Donavan Marney on +61 491 080 178 or d.marney@unsw.edu.au

To submit an application, please email the following documents to  d.marney@unsw.edu.au as email PDF attachments:

* Cover letter (1 x A4 page maximum)
* CV (3 x A4 pages maximum)
* Copy of academic transcripts (university level qualifications)
* IELTS/TOEFL test results (if applicable or available)

**Closing date**

Applications will be accepted until the projects has been filled by a suitable candidate or until

Midnight on Sunday 18th August 2019, 11:55 pm AEDT