TITLE: Groundswell Laboratories Industrial Experience Project

INSTITUTION: Groundswell Laboratories, 116 Morey Street, South Melbourne VIC 3205

SUPERVISOR: Paul Woodward

RESEARCH FOCUS: Chemical analysis

RESEARCH BACKGROUND

Groundswell Laboratories is NATA-accredited facility offering a broad scope of analytical services to a diversified range of industries. The services offered by Groundswell Labs including client interaction, satisfying client Data Quality Objectives, provision of sampling equipment, logistics, quality results, and technical advice. The quality management system used is compliant to AS ISO/IEC 17025 – 2005 “General requirements for the competence of testing and calibration laboratories”. This standard specifies the general requirements for the competence to carry out test and/or calibrations. It covers testing and calibration performed using standard methods, non-standard methods, and laboratory-developed methods. Compliance also meets the principles of AS/NZS ISO 9001. The company’s analytical scope includes:

- Moisture, total suspended solids, total dissolved solids, total solids, loss on ignition, high volume filter weighing – pre/post sampling period
- Atmospheric dust analysis – total solids, soluble solids, total insoluble matter, ash content, combustible matter (& provision of dust gauges)
- pH, electrical conductivity (fresh & saline waters), fluoride
- Turbidity
- Chloride, alkalinity
- Cyanide, hexavalent chromium, nitrate, nitrate
- A full suite of metals: base metals, cations
- Sulfate
- Cation exchange capacity & ESP
- Soil analysis for civil engineering applications
- Paint analysis: lead
- Gravimetric (weight) analysis of filters for air quality monitoring to 0.01 mg & analysis of metals.
- ASLP leachates – compliant with AS4439.2 & AS4439.3
- Organics: TRH C 10-36 & TRH >C 10-40, PAH’s, Phenols, OCP’s, SVCHC’s, PCB’s
- Other specialized sample preparation/analysis services

RESEARCH PROJECT PROPOSAL

The exact nature of the work will depend on what the Groundswell Laboratories staff are doing at the time, but students will have the opportunity to be involved in a variety of tasks. These may be either laboratory-based or working in the office, and include using instrumentation such as:

- Gas chromatogram – flame ionisation detector (GC-FID)
- Gas chromatogram – mass selective detector (GC-MS)
• Inductively coupled plasma– mass spectrometer (ICP-MS)
• Atomic adsorption spectrophotometer (AAS)
• Ultraviolet – visible spectrophotometer (UV-VIS)
• Ion selective electrodes
• Gravimetric balances – including weighing to 0.01 mg.
• Titrimetric analysis
• Classical distillation techniques
• HotBlock metal digestor

**NUMBER OF STUDENTS:** One

**PLACEMENT**

The ideal student will be studying chemistry and analytical chemistry. This placement is based at the Groundswell Labs building at South Melbourne, and will be undertaken on a full-time basis (total placement time of 80 hours). Placement start time is negotiable, preferably late September – December 2015 (after the exams), and placement will be on a **strictly volunteer basis**. Applications will be accepted up to September 15th, 2015. Successful completion of the placement confers eligibility for the Monash INV1001 Passport unit.
Science Industry Placement Program Application Form

For more information visit [http://monash.edu/science/current/undergraduate/getting-the-most/sipp/sipp-main.html](http://monash.edu/science/current/undergraduate/getting-the-most/sipp/sipp-main.html)

All applications to be lodged in electronic form only, emailed to sci-sipp@monash.edu

### Personal details - Please type or write legibly

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<th><strong>Student email address</strong></th>
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### Course details

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### Project details

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<th>Groundswell Laboratories</th>
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<td><strong>Project title</strong></td>
<td>Groundswell Laboratories Industrial Experience Project</td>
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<td><strong>Dates available</strong></td>
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<td><strong>Working hours available</strong></td>
<td>e.g. 9 am – 5 pm daily</td>
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### Meeting placement requirements

What units have you completed that will make you a suitable candidate for the project?

What attributes do you have that will make you a suitable candidate for the project?
Supporting documentation (please attach following documents with your application and tick box below):

- Curriculum Vitae of no more than 3 pages.
- Statement of results (download from WES--official versions are not necessary).

Eligibility

Eligibility Criteria

To be selected for the Science Industry Placement Program, you need to meet the following criteria:

- Be currently enrolled in a Faculty of Science course, must have completed at least 48 credit points and have no more than 48 credit points remaining in the course; and
- Demonstrate a preparedness and capacity to complete a minimum of 30 hours or a maximum of 80 hours placement at an industry partner organisation without compromising their other science studies; and
- Demonstrate work readiness (i.e. we are looking for evidence of personal qualities which equip you to function appropriately and autonomously in a professional work environment).

Selection Criteria

The selection criteria are the ‘best fit’ match between your enrolled course, units you have completed, interest and experience with the particular project requirements. The industry partner has the final decision. Applicants who are closer to completing their course will be given priority if they meet the ‘best fit’ match. Please visit the projects section to view the projects available. The webpage will be updated as project proposals are submitted by the industry partners.

Privacy

The information on this form is collected for the primary purpose of applying for the Science Industry Placement Program which includes deciding whether the application will be granted and sending related correspondence. If the form is incomplete, it may not be possible for the Faculty to process the application. The information provided by the applicant in this form, curriculum vitae and academic may be provided to the industry partner of the project in the event that the student is provisionally matched with that industry partner in order for the industry partner to assess the application.

All information for the application of the Science Industry Placement Program is managed in accordance to the University’s Privacy Policy. If you wish to access or inquire about the handling of your personal information contact the University Privacy Officer: Privacyofficer@adm.monash.edu.au

Version date: 2 October 2013

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I am enrolled in a course belonging to the Faculty of Science and have completed at least 48 credit points and will have no more than 48 credit points remaining to complete

I can commit to completion of a minimum of 30 hours or a maximum of 80 hours as required by the industry partner without compromising my studies

I have addressed the selection criteria including my suitability and match to the agency/ies and the project/s offered by those agencies in my cover letter

I understand that no salary will be paid for the industry placement and Monash University holds no responsibility for any allowance agreement between the industry partner and the student.

On signing the Science Industry Placement Program application form I agree:

1) That I meet all of the eligibility criteria for the Science Industry Placement Program.

2) To represent Monash University in a manner that does not compromise the integrity, reputation or relationship of the University and Faculty with the participating industry partners in any way.

3) That information provided by me in this form, my curriculum vitae and academic transcript may be provided to the industry partner in the event that I am provisionally matched with that industry partner in order for the industry partner to assess my application.

Student Declaration

I declare that the information provided on this form and the information given to support my application is correct and complete.

I acknowledge that Monash University, Faculty of Science reserves the right to vary or reverse any decision on the basis of incorrect or incomplete information.

Student signature  Date

Received by (print) Date

All applications to be lodged in electronic form only, emailed to sci-sipp@monash.edu

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