Join a team of students this summer and virtually intern with science industry partners in Malaysia.

Applications are now open! Scholarships available for eligible domestic students!
Overview

Virtual Science Internships: Malaysia Summer 2020/21
Over an 8-week period this summer, you'll join science students from UNSW, University of Newcastle and University of Wollongong to work in teams on an industry project related to your major of study.

You'll be assisting an industry partner with a genuine problem they are currently tackling in their organisation. You'll work with your team mates to deliver project outcomes in 6 weeks. You'll have an industry mentor to guide you through the project, with further support from academic staff.

As preparation for the industry project, you'll undertake a 2-week preparation component, with tasks to develop transferrable skills such as leadership, communication and critical thinking. You'll also expand your cultural competency by undertaking beginner’s Malay language and cultural classes.
Graduate employers seek students who not only have relevant work experience, but those who are resilient and can thrive in a variety of workplace settings.

Working virtually requires a different skill set to traditional in-person workplace settings. The ability to work professionally and productively in a virtual context is a crucial skill in graduates. A virtual internship proves to future employers that you are not only work-ready, but adaptable to the changing nature of work.

Gaining global work experience shows potential employers that you are a global citizen; you exhibit cultural awareness, can work in diverse cultural settings and have an interest in getting out of your comfort zone and exploring other cultures.

The graduate labour market is highly competitive and having a global experience under your belt can help you stand out from the crowd.
Eligible UNSW Science students will undertake the virtual internship as a **SCIF3199 Science Work Placement course**.

This counts as a 6 UOC science or free elective.

**Program costs:**

Program costs are between AUD$1000-$2000. Eligible domestic students accepted into program will be offered a *New Colombo Plan* scholarship to cover the full program costs.

**Tuition Fee:**

Normal tuition fees for a 6 UOC course will apply for enrolment into SCIF3199 (*Standard international or domestic CSP rates*).
Program Details

Virtual Science Internships:
Malaysia Summer 2020/21
When does the internship run?

The virtual internship will be held in Summer 2020/21 from Monday 14\textsuperscript{th} of December to Friday 12\textsuperscript{th} of February, with a break over the holiday period.

Students may access program materials from Monday 7\textsuperscript{th} of December.

<table>
<thead>
<tr>
<th>Program Week</th>
<th>Program Component</th>
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<tbody>
<tr>
<td>Week 1: Mon 14 – Fri 18 Dec</td>
<td><em>Professional skills component</em></td>
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<td></td>
<td>• compulsory online class attendance 12-2pm and 3-5pm daily; and</td>
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<td>• additional online tasks to be completed flexibly in your time.</td>
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<tr>
<td>Week 2: Mon 21 Dec – Thur 24 Dec</td>
<td><em>Professional skills component</em></td>
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<tr>
<td></td>
<td>• compulsory online class attendance 12-2pm and 3-5pm daily; and</td>
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<td></td>
<td>• additional online tasks to be completed flexibly in your time.</td>
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<td>Fri 25 Dec – Sun 3 Jan</td>
<td>Break</td>
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<td>Week 3: Mon 4 – Fri 8 Jan</td>
<td><em>Industry Project Component</em></td>
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<td>Week 4: Mon 11 – Fri 15 Jan</td>
<td>• 2-3 hours per week of online meetings (day/time to be negotiated); and</td>
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<td>Week 5: Mon 18 – Fri 22 Jan</td>
<td>• project work to be completed flexibly with teammates.</td>
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<td>Week 6: Mon 25 – Fri 29 Jan</td>
<td>• Final presentations to be held in Week 8</td>
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<td>Week 7: Mon 1 – Fri 5 Feb</td>
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<td>Week 8: Mon 8 – Fri 12 Feb</td>
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4 industry projects are available. Students must complete a project that is relevant to their science major. Relevant majors are listed for each project.

As part of the application process, students may nominate a project they are most interested in, however we cannot guarantee that students will be offered their preferred project.

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<th>Project</th>
<th>Relevant Majors</th>
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<td>Bioprocessing and Biomanufacturing Research Centre (BBRC) Universiti Putra Malaysia.</td>
<td>BBRC is a research centre under the Faculty of Biotechnology and Biomolecular Sciences at Universiti Putra Malaysia. BBRC consists of several facilities including Bioprocess Technology Laboratory, Good Manufacturing Practice Facilities for Bacterial Vaccines Production, Biomanufacturing for Food and Food Ingredients Laboratory and Analytical Laboratory. BBRC in particular specialises in fermentation and bioprocess technology for various processes of fermentation based on microbial, fungi and plant cultivation. The main objective of BBRC is to be a national leader in Bioprocessing and Biomanufacturing, with the ability to help in enhancing the commercialisation of biotechnology products in Malaysia.</td>
<td>Recovery of Industrially-Important Enzymes from Natural Rubber Latex (NRL). During the processing of NRL, the white sap that comes from the Hevea brasiliensis tree, for production of rubber products, a protein-rich fraction is generated and it is treated as waste. This project deals with the recovery of useful enzymes from the NRL such as lysozyme and chitinase. The scope of the research includes: development of assays for detection of the enzymes, development of methods to recover/purify the enzymes, and ultimately to integrate the recovery methods and the NRL processing.</td>
<td>Biotechnology Chemistry Molecular and Cell Biology</td>
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<td>Valorisation of Fish Sausage (Keropok Lekor) Waste for the Production of Bioactive Peptides/Protein Hydrolysates. Fish Sausage (Keropok lekor) is a popular Malaysian snack and a specialty of the Terengganu region in Malaysia. Significant amount of solid fish waste is generated during the processing, which is minimally valorised except to be used as aquafeeds. This project aims to produce high-value products such as bioactive peptides/proteins. The scope of the research includes: production of bioactive peptides/proteins via fermentation route, development of downstream processing methods to recover the targeted products, and characterisation of the products.</td>
<td>Biotechnology, Chemistry, Food Science, Molecular and Cell Biology</td>
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<td>Extraction of Superoxide Dismutase (SOD) from Tetraselmis chuii and Its Potential to Reduce UV-Mediated Reactive Oxygen Spesies (ROS) Production in Human Dermal Fibroblast. The use of microalgae as a host to produce various bioproducts has attracted considerable interest worldwide, due to its high protein, metabolites, and minerals productivity, simple structure, high growth rate, and photosynthetic ability. One of the potential bioproducts is antioxidants, including enzymes (SOD, glutathione peroxidase and catalase), carotenoids, polyunsaturated fatty acids, polysaccharides, or mycosporine-like amino acids (MAAs). This project aims to extract SOD, the primary and most important enzyme within the cell antioxidant system, from Tetraselmis chuii and to assess its potential to reduce UV-mediated reactive oxygen spesies (ROS) production in human dermal fibroblast. The scope of the research includes: optimisation of extraction methods in regards to yield and purity, the assessment of the effect of the SOD extract on the production ROS in cell system, and to examine the potential synergistic effect of the SOD with other antioxidative compound in ROS reduction.</td>
<td>Biotechnology, Chemistry, Microbiology, Molecular and Cell Biology</td>
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### Organisation Overview

Wild Asia was first established in 2003 as a Malaysian-based social enterprise. Wild Asia believes that an understanding of social and environmental issues is fundamental to sustainable developments. Our mission is to inspire businesses to improve their social and environmental practices to meet and exceed global standards. We aim to promote change from within the industry by engaging with businesses, particularly those with direct social and environmental impacts.

One of the challenges for many commodity-related industries is ensuring that global standards do not marginalise small producers. Wild Asia pioneered a scheme for small palm oil producers through a programme called Wild Asia Group Scheme for Small Producers or WAGS. We make available technical assistance, training and capacity building for small farmer groups.

### Project

**Developing a tool for financial and carbon accounting for smallholder farmers in oil palm to increase the carbon-capture under farmlands, improving environmental land-stewardship and increasing livelihood.**

Wild Asia works with a network of small farmers in Malaysia. We have an on-going project to guide small farmers on non-chemical agriculture, reducing dependency on chemical inputs (including fertilisers), improving soils through organic soil amendments, and increasing the natural diversity within farm blocks. These “low carbon” farms are models for other smallholder farmers.

To help strengthen our business and environmental case for these “low carbon” farms, it is important that we are able to understand what impact these new management practices will have on farmer annual costs, income and carbon emissions for our farmers. How does this compare to a conventional farmer?

What we are missing is a tool to be able to make this possible as there are no “ready-made” solutions. We envisage that we would develop and design the parameters together, and then teams will undertake the development of a tool using excel, google or cloud database.

### Relevant Majors

- Biology
- Data Science
- Ecology
- Environmental Management
- Mathematics
- Statistics
Apply
Virtual Science Internships:
Malaysia Summer 2020/21
Who can apply?

Applications are open to science students who are eligible for the elective course SCIF3199 Science Work Placement. Domestic and international students are welcome to apply, however scholarships are only available to domestic students.

What do I need to submit?

Applicants will be asked to provide basic about their science program (program code, major, WAM), and to nominate their preferred industry project. Students may nominate the project they are most interested in, however we cannot guarantee that students will be offered their preferred project.

Applicants are also required to write a brief (250-word) statement outlining:

1. why they are interested in the virtual internship; and
2. what skills and experience they will bring to the virtual internship.
Applicants will be assessed on their:

- Eligibility for SCIF3199 enrolment
- Academic WAM
- 250-word application statement

Applications close 11:45pm on Sunday 8th of November.

Students will be notified by Friday 20th of November regarding the outcome of their application.
More Questions?

Please contact us at science.industry@unsw.edu.au