



EXPLORE!

Young Marine Scientist Research Award

The National Research Foundation (NRF) Marine Science R&D Program (MSRDP) seeks to advance marine science research in Singapore by leveraging on the rich biodiversity around Singapore and tropical Southeast Asia. The “3+1” themes identified in the program - Marine Ecosystems & Biodiversity, Environment Impact & Monitoring, Coastal Ecological Engineering, Marine Technology Platforms – aim to provide research stimulus toward long term environment sustainability.

MSRDP in partnership with the St John’s Island National Marine Laboratory (SJINML) is pleased to present a unique multi-disciplinary research environment for training young marine scientists. The “Explore” research grants aim to provide research support to undergraduate/diploma/JC level students (17-25 years old) to undertake exploratory marine science research at SJINML.

The objectives of this student program are:

- Encourage exploratory research relevant to the 3+1 themes of MSRDP
- Nurture multi-disciplinary problem-solving skills and interest in STEM subjects
- Encourage interest in marine science and maritime careers

Explore aims to motivate students to develop technical skills and scientific literacy through active research interactions, thus moving from being passive learners to active scientists. By engaging in independent research, students develop essential 21st century skills such as critical thinking, communication, problem solving and collaboration. Early research experiences promote positive attitudes towards science, technology, engineering, and mathematics (STEM), whilst field-based research experiences nurture positive self-esteem, independence and creative thinking in young learners.

HOW TO APPLY

- Application Form: includes a 5-10 page proposal consisting: Background, Objectives, Research Program, Deliverables, Budget and Funding required. Research idea should fall within 3+1 themes of MSRDP. Scope of works should not overlap with scope of works of an existing funded project. Students are encouraged to pursue novel exploratory research ideas.
- Each student must have a supervisor from his host organisation, as well as a mentor at SJINML. Supervisors and mentors are expected to guide student in his project and take responsibility for his safety at work. Students may write in to SJINML for assistance to identify mentors.
- A CV and cover letter describing the relevance of the research and his motivations for applying for the grant should be enclosed with the application.

INTERVIEW AND FINAL SELECTION

- Selected applicants will be invited to attend an interview. The student is expected to demonstrate understanding of scientific and technical issues related to his proposed research topic.
- For each call, a **maximum of 10** best applications will be selected.

TERMS FOR ACCEPTANCE OF RESEARCH AWARD:

- The research shall be undertaken over maximum of 9 months, at the end of which the student is expected to submit his written report to SJINML Admin Office.
- The grant award will cover the students' bench fee at SJINML (6 months) and up to SGD\$1,500 for research consumables and local travel for field work. No fund may be spent for student stipends, equipment purchase or international travel. No funds will be transferred to the student. SJINML project office will assist students with their project purchases and finances.
- The students' host institution will be expected to sign the SJINML Facilities Use Agreement to enable the student to conduct research work at SJINML. Copy of the agreement may be found in the SJINML User Handbook downloadable from:
http://sjinml.nus.edu.sg/wp-content/uploads/2018/05/SJINML_User_Handbook_updated-April-2018.pdf
- The research undertaken may contribute towards the student's academic studies. Intellectual Property arising from the Research remains the property of the Host Institution. NUS reserves right to use the information for research purposes.
- In consideration of time required to process inter-institutional research ethic compliances, applicants are advised to avoid conduct of any research pertaining to human participants and tissues and use of animals requiring approvals from the Institutional Animal Care and Use Committee.
- Any publication of the research (via media releases, media interviews, speeches and/or videos etc.) must include an acknowledgement of the National Research Foundation for MSRDP and SJINML.
- At the end of the project period, the student is expected to hand in a report and present a research seminar describing the results of his work. This may be an individual presentation scheduled as part of a departmental monthly seminar open to all institutions. Or, he may present at student symposia to be organised by the program in June 2019.
- Good research reports arising from the program will be considered for publication in a special issue for marine science in Singapore Institute of Biology e-journal, the *Asian Youth Journal of Biology*.

IMPORTANT DEADLINES FOR CURRENT CALL:

- Call Opens: 21 May 2018
- Deadline for submission of applications: **29 JUNE 2018**
- Interviews: Week of 23 July 2018
- Award: First week of September 2018
- Complete work and submit report by: 30 May 2019

For more information:

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APPLICATION FORM

| STUDENT INFORMATION | |
|--------------------------------------|--|
| Name of Applicant | |
| Student ID | |
| *Date of Birth | |
| Institution Name | |
| Institution Address | |
| Email address | |
| Contact Telephone | |
| Program: | € Junior College Year 1/2/3 € Polytechnic Diploma Course: _____ (Course title/Year) € Undergraduate Degree: _____ (Course title/Year) € Others: _____ |
| PROJECT DESCRIPTION | |
| TITLE | |
| Proposed Start Date | |
| ABSTRACT (no more than 100 words) | |
| 5 KEYWORDS | |

** Please note that students under 21 may require a parent/guardian to grant indemnity for his child/ward to undertake research in NUS' research laboratories.*

Please enclose the following with your application form:

- € One page Cover letter describing the relevance of the research and your motivation for applying for this award

- € Brief 1-2 page Curriculum Vitae

- € Project proposal (Arial 12-pt; maximum 10 pages): a proposed template is provided in Appendix A

FOR STUDENTS

| | |
|-----------------|-------------------------------|
| Name: | Student Matric Number: |
| Institution: | Form/Year of Study: |
| E-mail Address: | Home / Mobile Contact Number: |

- € I have read and agree with the terms and conditions for this research award
- € I have read the SJINML Handbook and will abide by the rules for conducting research at the marine laboratory
- € I will work closely with my supervisor and mentors to ensure my research is conducted in a safe manner

Signature: _____ Date: _____

FOR SUPERVISOR AT STUDENTS' HOST INSTITUTION

| | |
|------------------------|----------------|
| Name: | Department: |
| Designation: | Institution: |
| Emergency Contact No.: | Email address: |

- € I have ensured that the student's project complies with the guidelines laid down by our institution research ethics committee, and complies with all safety requirements as defined in the SJINML Handbook
- € I have communicated relevant safety information to the student and will continue to advise him for safety risk assessments pertaining to his activities during his research project
- € Our institution will endorse the SJINML Facilities Use Agreement for this student to conduct his research at SJINML

Signature: _____ Date: _____

Company Stamp:

FOR SJINML MENTOR (where applicable)

| | |
|------------------------|----------------|
| Name: | Laboratory: |
| Designation: | |
| Emergency Contact No.: | Email address: |

- € I have communicated relevant safety information to the student and will continue to advise him for safety risk assessments pertaining to his activities during his research project

Signature: _____ Date: _____

PERSONAL DATA PROTECTION ACT

NUS Personal Data Consent for Academic Visitors / Visiting Scholars

The information you provide in your curriculum vitae and/or Personal Particulars Form will be used and processed by or on behalf of NUS for purposes related to your registration of interest in current or future visits / attachments at NUS and for the processing of your application for visit / attachment.

We will collect and use the personal data that you have supplied to facilitate the processing of your application for your visit / attachment. We will use personal information such as telephone number and or email address to contact you on visiting / attachment opportunities. Please note that the information you provide may be used by a third party to enable us to process your application. These third parties may be located outside of Singapore to carry out some of the processing and administrative functions for NUS and would be under duty of care to maintain the appropriate levels of security and confidentiality and only use the information as instructed by NUS.

The personal data held by NUS relating to the applicants will be kept strictly confidential. NUS may collect information through other sources for processing and evaluating your application for your visit / attachment. If your application is successful, the information will be used in the administration of your visit / attachment. NUS may provide and/or transfer such data, whether in Singapore or outside of Singapore, to (i) any other departments within NUS or if necessary, with Government agencies; (ii) any third party service provider who provides administrative, data processing, computer or other services to NUS. As part of assessing your suitability to visit / be attached to NUS, we may use your information to conduct reference checks in accordance with NUS HR Policy. If necessary, NUS may provide your personal data to Ministries, public agencies, statutory boards or other similar organisations for evaluating your application.

If your application is unsuccessful, NUS may retain and use the information which you provided for 2 years from the receipt of your curriculum vitae and/or personal particulars to deal with any matter which may arise in connection with your application, for purposes of contacting you in connection with ongoing visiting / attachment opportunities, as well as for data analysis and business purposes.

By giving your consent, you agree to your data being used in conjunction with the visit / attachment. In order to maximize your opportunities to visit / attachment with NUS, you are encouraged to keep the information provided to us up to date at all times. You are responsible for ensuring that the personal data is correct and true. You also have the option to withdraw your consent anytime. If you wish to amend your personal data kept by NUS or withdraw your consent, please visit NUS Personal Data Service Request System at <https://myaces.nus.edu.sg/PSR>. If you have any queries, please email to: NUSRecruit@nus.edu.sg.

I have read and consent to the above.

_____ (signature)

Name:

Date:

APPENDIX A: Research Proposal

(Arial 12-pt; maximum 10 pages, at least 5 pages)

Name of Student:

Student Matric Number:

Institution:

Year of Study:

1. Project Title

The title of your proposal should be short, accurate, and clear.

A single sentence containing ten or fewer words is best.

Do not use acronyms and technical jargon as your reviewers may not come from your technical specialty.

2. Abstract

As in a technical paper, the proposal abstract should “abstract” the project for the reader. It should be a brief (100 – 200 words), tightly worded summary of the project, its objectives, the problem’s significance, the project’s scope, the methods that will be employed, and the expected results. Be sure to write this section last so that its content indeed abstracts your proposal.

3. Background and Significance of the Research

This section addresses why the proposed work is important/significant in the field. You should provide the status quo of the relevant work field and identify a gap in knowledge or activities that must be filled to move the field forward. Sufficient details should be given in this discussion, especially in making clear what the research problem is and exactly what has been accomplished.

Literature reviews should be selective and critical. Reviewers would want to know the pertinent works that have been carried out and your evaluation of them. Discussions of work done by others should therefore lead the reader to a clear impression of how you will be building upon what has already been done and how your work differs from theirs. It is important to establish what is original or innovative in your approach, what circumstances have changed since related work was done, or what is unique about the time and place of the proposed research.

4. Project Objectives

What do you want to know, prove, demonstrate, analyze, test, investigate or examine in your research? List your project objectives in a logical sequence. Due to the duration of the project, your objectives should be focused; not more than 3 objectives that can be achieved with 6-9 months’ work.

5. Research Design and Methods

What methods will you use to address your research problem?

What do you need? (Specify any special equipment, software or consumables)

Are there barriers or pitfalls that you can anticipate in your planned research?
 Does the project involve human ethics, animal ethics or safety implications?
 Is travel or fieldwork required for data collection? If so, where to, how long and at what intervals?

6. Expected Outcomes

What are the expected outcomes?
 Establish the importance of your project by highlighting its originality or why it is worth pursuing. Highlight the benefits, positive expected outcomes or innovative applications of knowledge.

7. Gantt Chart

Using a Gantt Chart below, indicate the timeframe for each broad stage, such as literature surveys, data collection, production, modelling, review, data analysis, testing, reporting.

| Project Implementation Schedule | Month | | | | | | | |
|---------------------------------|-------|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | | | | |
| | | | | | | | | |
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8. Budget

Preparing a good budget is an essential part of planning a research. The budget should identify the anticipated cost for everything (e.g. materials, travel costs, etc.) that will be required in order to accomplish the work. Good budget planning ensures a project is conducted in a timely manner.

Usually budgets are prepared and submitted as tables with prescribed format. A budget justification typically accompanies the budget request. The budget justification is simply an explanation, item-by-item, stating why you must spend the money requested in order to carry out the experiments planned.

Note that EXPLORE will provide you \$1500 which may be spent for consumables, local travel for field work and equipment usage fees. If you require more funds, speak to your supervisor, and account for the additional funding in this section as Contribution In-Kind from other sources. Your supervisor will be able to assist you with this section.

9. References

There is no specific format for references. Just make sure the format you use is consistent throughout.