

## **ST JOHN'S ISLAND NATIONAL MARINE LABORATORY**

### **TERMS FOR USE OF RESEARCH FACILITIES (NUS Researchers)**

#### **A. FACILITY ACCESS**

1. The User's access and use of the Facility shall only be for the specific purposes as set out in the Facilities Request Form. User must inform and seek permission from SJINML if there is any change in scope or requirement.
2. The Facility shall not be used for any other purpose(s). The use of the Facility shall not result in the generation of hazardous materials or hazardous waste, unless a written request with necessary details has been made to SJINML and expressly permitted by SJINML, subject to additional terms and conditions as prescribed by SJINML.
3. SJINML shall allocate the designated space for the User. Any requirement for more space at SJINML shall be subject to availability and written approval by SJINML. This shall not be construed as giving the User exclusive right to the occupation of the allocated space. SJINML retains the right to grant permission to other parties to use the Facility or any part thereof at its sole discretion.
4. The User's use of the equipment furnished by SJINML is limited to the equipment and uses set out in the Equipment Standard Operating Protocols provided.
5. The User's access to and use of the Facility is subject to guidelines defined in the SJINML Research User Handbook, and such guidelines will be monitored by the respective laboratory managers overseeing research facilities. All NUS staff and students are also expected to abide by all rules and policies of NUS.

#### **B. FEES AND COSTS**

1. The facility charges are given in **Appendix A**.
2. For daily rate, user shall pay SJINML as indicated above, on a monthly basis. SJINML shall submit an invoice to User once a month (or within two (2) weeks of last date of use), and the User shall pay such invoice within thirty (30) days of the invoice date. For annual fee, the User shall pay SJINML in advance, within thirty (30) days of the Commencement Date.
3. Separate charges apply for use of special equipment, services and accommodation at SJINML. The User will be informed of fees payable by the relevant manager in charge. SJINML shall submit an invoice to User once a month (or within two (2) weeks of last date of use), and User shall pay such invoice within thirty (30) days of invoice date.
4. SJINML reserves the right to adjust bench fees, with new rates taking into effect at the beginning of each financial year. User will be notified by 1 February of each year, of changes expected from 1 April of the new financial year.

#### **C. CARE & MAINTENANCE**

The User shall at all times ensure proper care of the Facility and keep it in good condition and good working order. The User shall also maintain the Facility in a clean and safe condition over the period of use, and upon termination of the Agreement, surrender the Facility in as good a condition as received, normal wear and tear excepted.

#### **D. DAMAGE TO FACILITY**

1. The User shall be responsible for any damage to the Facility and shall be liable for all costs and expenses in rectifying the damage, or for the clean-up or waste-related expenses incurred by SJINML, including without limitation, costs pertaining to disposal, shipping, damages, equipment repair and/or replacement and/or other costs or penalties incurred by SJINML as a result of the use of the Facility by the User.
2. The User shall be responsible for maintaining his/her own equipment in safe working condition.
3. The User is responsible for all losses, claims, demands, actions, proceedings, damages, costs or expenses (including all legal fees) and any other liability arising in any manner whatsoever (the "Consequences") from (i) the User's staff or students access and use of the Facility; (ii) the installation, operation or use of any of the User's equipment or material in the Facility; (iii) any animal or plant brought into the Facility by the User; (iv) any breach of the Agreement by the User; (v) breach of law, save where the Consequences arise from and/or have arisen as a result of negligence or wilful default of SJINML.
4. Where applicable (for example for use of sensitive equipment), the User may be requested to submit a separate damage deposit, which shall be applied towards the costs of any SJINML expenses beyond reasonable wear and tear that may result from the use of the Facility by User. For the avoidance of doubt, the User's liability for damages shall not be limited or capped to the amount of its damage deposit. Any unused portion of the User's damage deposit shall be returned to User.

#### **E. INTELLECTUAL PROPERTY**

1. NUS research personnel shall respect the Intellectual property of researchers from other organisations present at SJINML. Intellectual property developed solely by Users in the Facility shall be the exclusive property of User. Intellectual Property jointly developed by employees and/or agents of User and employees, agents and/or students of NUS in the Facility shall be jointly owned by User and NUS. Disposition of such jointly owned intellectual property shall be determined by the terms of a separate agreement between the Parties. Nothing in the foregoing grants any rights to NUS' share of any jointly held intellectual property to User.
2. In the case of intellectual property developed by User which constitutes an improvement or new method of use with respect to equipment within the Facility, User hereby grants to NUS a perpetual, royalty-free right and license to use such intellectual property in combination with such equipment.

#### **F. COMPLIANCES**

1. The User, and any personnel acting on its behalf shall comply with Singapore laws regulations, policy directives and other requirements in Singapore, as amended from time to time, governing the operation and use of the Facility. In addition, the User shall adhere to all applicable NUS policies, rules, guidelines and procedures, pertaining to the use of the Facility. SJINML reserves the right, at its sole discretion, to determine and monitor the manner of User's compliance for any matter pertaining to use of the Facility.
2. The User shall permit unannounced access to his workspace by SJINML personnel, any National Research Foundation personnel and its authorised representatives and any third party nominated by NUS. User shall promptly comply with all requests by SJINML for information related to the use of the Facility as SJINML deems necessary for its compliance with any regulatory policies and laws and/or any legal obligations NUS may have to any third party.

3. For avoidance of doubt. SJINML permission to the User to access and use the Facility shall not be construed as SJINML endorsement of activities described in the User's Facilities Request Form.
4. Prior to commencing any activities in the Facility that require special permits, licenses or certifications, the User shall obtain the necessary permits, licenses or certification at its own expense and shall consult SJINML on procuring such licenses permits or certifications, which may require the Facility owners acknowledgement or approval. The User shall provide SJINML with copies of the relevant permits, licenses or certification.
5. All NUS researchers are reminded to ensure they are compliant with NUS policies and Singapore laws and regulations controlling the export of technical data, computer software, laboratory prototypes, animals and all other export controlled commodities.
6. User may be required to attend user meeting convened and conducted by SJINML to provide feedback in relation to the use of the Facility.
7. The User shall not commence or carry out any work involving animals covered under the Animals & Birds (Care and Use of Animals for Scientific Purposes) Rules ("animal work") unless and until the project involving such animal work has been approved by the NUS Institutional Animal Care and Use Committee ("NUS IACUC"). The User shall adhere to all applicable NUS policies, rules, guidelines, SOPs and procedures (particularly, but not limited to, those prescribed by NUS IACUC, TMSI and NUS Veterinarians), pertaining to the animal work. The Users shall also act in accordance with all instructions given by NUS IACUC, NUS Veterinarians and TMSI staff on animal welfare, care and husbandry.

#### G. AUTHORIZED USERS

1. The User shall not permit the Facility to be accessed or used by any person who is not an employee, agent or others acting on its behalf without prior written approval by SJINML. For the avoidance of doubt, under no circumstances shall the User's use rights in the Facility be extended to unrelated organisations or parties for any purpose.
2. SJINML reserves the right to deny entry to the Facility or to immediately remove from the Facility, at its sole discretion, to any User personnel who SJINML believes represents a safety or security risk to SJINML.

#### H. ADDITIONS/MODIFICATIONS TO THE SPACE

1. SJINML shall own all permanent modifications, alterations and additions made to the Facility, whether made by User or SJINML. User may furnish non-permanent equipment, tooling, test apparatus or other materials necessary for its use of the Facility, and such items shall remain the property of User. SJINML shall not be responsible for any loss or damage to such items however occasioned.
2. Except as specifically provided in this Agreement, the User shall not use SJINML' equipment, tools, personnel or furnishings without permission. The User shall confer with relevant laboratory managers for access to equipment availability to avoid conflicts in the use of the Facility. In the event of an unavoidable conflict, SJINML' uses related to research, teaching, and education shall take precedence.

#### I. PUBLICATIONS OF RESEARCH FINDINGS AND ACKNOWLEDGEMENTS

1. All publications of any materials (via media releases, media interviews, speeches or videos etc.) by any User of the Facility that are related to work fully or partially undertaken at the Facility must

include an acknowledgement of the National Research Foundation's support of SJINML in the following format:

***"[The authors] would like to acknowledge the St. John's Island National Marine Laboratory for providing the facility necessary for conducting the research. The Laboratory is a National Research Infrastructure under the National Research Foundation Singapore."***

2. Users shall keep SJINML informed of the creation of Intellectual Property, patents and publications arising from research that is performed using equipment that is maintained by SJINML. All peer-reviewed publications arising from research that is performed using equipment that is purchased, or maintained under SJINML shall be made publicly available no later than twelve (12) months after the official date of publication.

#### **J. TERMINATION OF USE**

SJINML may terminate User's access to Facilities if the User:

- (i) fails to make payment to SJINML in accordance with the terms stated; or
- (ii) fails to materially comply with the terms set out in this document and/or any NUS policies;
- (iii) allows safety training certificates to lapse or terminate for any length of time.

Upon termination by either Party for any reason, the User shall promptly pay SJINML any outstanding fees owed for use of the Facility up to and including the Termination date. If the User has prepaid for use of the Facility beyond the termination date, SJINML shall promptly refund any such excess fees to User on a pro-rata basis subtracting any User obligations for clean-up, damage repair and/or replacement and other liabilities.

#### **K. CONFIDENTIALITY**

All NUS staff and students are expected to respect research confidentiality of parties sharing use of the facility. Each Party agrees to hold in trust and confidence any information disclosed to it by the other Party, including, but not limited to, materials provided to it by the other Party that is marked with the word "Confidential" or with words of similar import (collectively, the "Confidential Information").

#### **L. DISPUTE RESOLUTION**

Any disputes arising shall be referred to the Director, TMSI and/or Chairman for SJINML Governing Board, for amicable resolution.

### **Research User Declaration: (Please tick boxes)**

I have read the above and agree to the conditions set out in this document and the SJINML Handbook

**Name:** \_\_\_\_\_

**NUS Staff/Student Number:** \_\_\_\_\_

**Department:** \_\_\_\_\_

\_\_\_\_\_

### **APPROVAL OF PROJECT PI/SUPERVISOR (as required):**

- My staff/student has discussed with me his/her research plans
- We will provide SJINML a copy of relevant Safety Risk Assessments for research activities that he/she undertakes at SJINML.
- I am aware of the costs associated with my researcher's use of the Facilities and have set aside sufficient funds to support his/her work.

### **NUS Project Principal Investigator**

**Name:** \_\_\_\_\_

**Designation:** \_\_\_\_\_

**Project WBS:** \_\_\_\_\_

\_\_\_\_\_

**Signature, Date:**

## APPENDIX A: Schedule of Bench Fee Rates (Updated as of 1 April 2024)

DAILY RATES	Student	Academic	Commercial User
<b>Basic Bench Fee</b> <i>consisting ferry transfer, hot-desk, dining amenities, use of basic lab facilities at SJINML</i>	\$30	\$60	\$100
<b>Bench Fee for researchers based at MAC</b> <i>Access to basic lab facilities at SJINML only</i>	\$30	\$40	\$70
<b>Biosafety Level 2 Research</b> <i>Access to Biosafety Level 2 lab and support at SJINML</i>	+\$20	+\$20	+\$40
<b>Overnight stay in dormitory</b>	\$35	\$35	\$35
<b>ANNUAL SUBSCRIPTION</b>			
<b>Basic Facility Access</b> <i>consisting ferry transfer, use of basic lab facilities (BSL1) at SJINML, dining amenities and dormitory, fixed desk and storage allowance</i>	\$1,500* (max 5 months) \$2,000* (max 8 months)	\$15,000	\$24,000
<b>Enhanced Facility Access</b> <i>consisting ferry transfer, use of BSL1 &amp; BSL2 lab facilities at SJINML, dining amenities and dormitory, fixed desk and storage allowance</i>	\$3,000*	\$20,000	\$35,000
<b>GROUP MEMBERSHIP</b>			
Basic Level Access	Up to 2 researchers on site per day - \$32,000 per annum. For every additional researcher - \$15,000 per annum	Not applicable	
Biosafety Level 2 Access	Up to 2 researchers on site per day - \$42,000 per annum. For every additional researcher - \$20,000 per annum	Not applicable	

\*Applicable for Industry Attachment Program students only.

a) AQUARIA

Facility	Description	Cost Per Day (excludes bench fees)
<b>Block 5 Marine Science Aquarium</b>		
Open seawater tables, researcher to provide own tanks	Total tank volumes do not exceed 2m <sup>3</sup> occupying 2m <sup>2</sup> bench space	\$10 per 2m <sup>2</sup> area 2m <sup>3</sup> tank volume/day
	Additional requirement per 1m <sup>3</sup> of seawater OR 1m <sup>2</sup> area	+\$10.00
Seawater Flume	15m seawater flume	\$60.00
	Support services: manpower assistance with aquaria husbandry, aquarium set-up/cleaning	\$45/hr or \$270/day
UGEMS Erosion Microcosm System (GUST)	Training	\$50
	Use of system, excl. consumables	\$10/hr
Laser In-Situ Scattering and Transmissiometry (LISST)	Training	\$50
	Use of system, excl. consumables	\$5/hr
Controlled Environment Aquarium	Mandatory training for new researcher	\$100
	Shared Space – 3 racks, 3 sump tank supply, 2 large filter mixing tanks	\$70.00
	Use of whole room – 6 racks, 6 sump tank supply, 2 large filter mixing tank	\$120.00
	Post-project cleaning fee	\$400 (full), \$200 (half)
	Supply for CO <sub>2</sub> tanks for experiments (5 litre tanks)	\$200 for first tank, \$120 per additional tank
	Dosing pumps	\$5.00
	Support services: manpower assistance with aquaria husbandry, aquarium set-up/cleaning	\$45/hr or \$270/day
	Submersible stirrer table	\$5.00
<b>Block 7 Open Area</b>		
Outdoor seawater troughs	Total tank does not exceed 2m <sup>3</sup> occupying 2m <sup>2</sup> space	\$10 per 2m <sup>2</sup> area 2m <sup>3</sup> tank volume/day
	Additional requirement per 1m <sup>3</sup> of seawater OR 1m <sup>2</sup> area	+\$10.00
Large fibreglass tanks	25t round fibreglass tank	\$100 per week
<b>Block 4 Aquaculture Aquarium</b>		
Open area for custom aquaria set-ups	Per 2 m <sup>2</sup> area, with total tank volumes not exceeding 2 m <sup>3</sup>	\$10 per 2m <sup>2</sup> area 2m <sup>3</sup> /day
	Additional requirement per 1 m <sup>3</sup> of seawater OR 1 m <sup>2</sup> area	\$5 per 1m <sup>2</sup> area 1m <sup>3</sup> tank volume /day
	Large fibreglass tanks – 5t round fibreglass tank (existing setup of x 4 tanks)	\$70.00 /week per tank
<b>Block 3 Microbiology Lab (Biosafety Level 2)</b>		
Biosafety Level 2 aquarium	User training (mandatory for new researchers)	\$150.00

	Base price including decontamination and cleaning (inclusive of chemicals, decontamination up to 600L @5000ppm chlorine, biomonitoring)	\$1,200.00
	Additional decontamination up to 600L	\$330.00
	Consisting 4x racks	+\$150.00 per day
Animal research aquarium	Base price consisting decontamination and cleaning (inclusive of chemicals, decontamination up to 3000L @5000ppm, biomonitoring)	\$3,000.00
	Additional decontamination up to 750L	\$330.00
	User training (mandatory for new researchers)	\$150.00
	Consisting 12 x RAS tanks	+\$200.00 per day
	Veterinarian services Weekdays (up to 3 hours) Weekends/Public Holiday (up to 3 hours)	\$400.00 (weekday) \$600.00 (weekend)
	For animal carcass disposal post-experiment (autoclave & disposal biomonitoring) (x5 autoclave cycles)	\$50.00 per 5 autoclave cycles
Technical assistance	Assistance with tank maintenance	\$45/hr or \$270/day
Support services	Manpower assistance with aquaria husbandry	\$45/hr or \$270/day
Waste management	Bio-monitoring and waste treatment	\$400.00
<b>Organism Supply Services</b>		
Microalgae	See manager for species list.	\$6.00 - \$7.00/ 250ml
Barnacle ( <i>Amphibalanus amphitrite</i> ) larval stages	Stage 2 nauplii (2000 larvae)	\$340.00
	Cyprid stage (2000 larvae)	\$400.00
Brine shrimp	Freshly hatched (10,000)	\$1.50
Cultured sea urchin <i>Salmacis sphaeroides</i>	A PAIR (Adult Male and female)	\$50.00/PAIR
	Juveniles (2 - 3 cm, 3 - 4 months old)	\$ 150 / DOZEN
0.2um filtered seawater	Per litre	\$8.00
F algal culture media	Per litre	\$12.00

**b) R/V Galaxea**

Research Vessels			
Description/Cost	R/V Galaxea		Pioneer Multi 3
Basic Fee (weekends) - academic	Academic	Non-Academic	Per 4 Hours
<b>Weekday</b>	\$1000.00	\$1500.00	\$300.00

<b>Weekend / Public Holidays</b>	\$2000.00	\$3000.00	\$450.00
<b>Extra Fuel</b>	\$2.50/L		\$100.00/25L
<b>Use of Winch</b>	\$200.00		NA
<b>Overtime Charges</b>	\$100/hr		NA
<b>Additional manpower</b>	\$270/day		
<b>See 8. Use for Research Vessels and Diving Facilities for more information</b>			

**c) Field Equipment**

Description		Cost Per day
Beta Bottle water Sampler	Vertical, horizontal	\$50
Bongo Net, with Frame and Bridle		\$50
Ekman Grab		\$50
Fisherbrand traceable waterproof thermometer		\$50
HOBO Temp Pro V2 Loggers		\$50
Manta Net	153um	\$50
Plankton Nets	Mesh sizes: 10, 20, 53, 153 um	\$50
Surber bottom sampler nets	243um	\$50
Rectangular Dredge		\$50
Pulse amplitude modulation unit (PAM)	Diving Pam II Accessories, Diving USH II Universal Sample Holder	\$5/hr; \$50 per day
Li-COR Light Sensor		\$5/hr; \$50 per day
Oxy 4 SMA	Optode dots not included.	\$5/hr; \$50 per day
Handheld GPS Unit		\$10/day
YSI Multiparameter water quality Sonde	EXO2 Sonde	\$100
	Conductivity-Temperature-Depth	\$20
	pH sensor	\$20
	Turbidity sensor	\$30
	Fluorescent dissolved organic matter sensor	\$20
	Optical Dissolved Oxygen sensor	\$10
	Total algae PE sensor	\$20
	Central wiper	\$10
	Handheld display (with GPS), weight kit, cables	\$30
YSI ProDSS Multiparameter water quality meter	Measures temperature, pH, salinity, DO	\$5/hr; \$50 per day

**d) Specialist Lab Equipment**

Description		Cost
<b>BioRad S3e cell sorter:</b> droplet frequency of 37-43 kHz. Fixed 100 µm nozzle, with three cameras, three different sort collection modes.		Training: \$400 per pax Training per group (up to 3 pax): \$800 Equipment use: \$40 per hour
<b>Axio Observer 7 laser-free confocal microscope:</b> Motorized inverted microscope (min. step width 10 nm); applicable for brightfield, DIC, fluorescence imaging; Apotome.2 optical sectioning		Training: \$200 per pax Training per group (up to 3 pax): \$400 Refresher training per pax: \$110 Equipment use: \$20 per hour
<b>Zeiss Confocal laser LSM 900.</b> With 2 MA-PMT detection channels and 4 laser lines (405, 488, 561 and 640 nm) on upright Axio Imager Z2 with motorized Z-drive and TFT touchscreen monitor		Training: \$400 per pax Training per group (up to 3 pax): \$800 Refresher training per pax: \$200 Equipment use: \$40 per hour Offline image processing workstation: \$10 per day
<b>Flowcam 8400:</b> Continuous imaging flow cytometer and particle analyser. Particle size 2 µm – 600 µm; 1 mL sample in 6 minutes, 120 frames per second.		Training: \$280 per pax Training per group (up to 3 pax): \$560 Equipment use: \$25 per hour
<b>HPLC:</b> Agilent 1260 Infinity II Prime Liquid Chromatograph. Pressure range up to 800 bar, 5 mL/min flow. Multi-sampler stores up to 6144 samples.		Training: \$200 Equipment use: \$20 per hour
<b>SMARTCHEM 450 nutrient analyzer.</b> Fully automated high technology discrete analyser. 450 tests/hour, up to 100 samples, 72 reagents. Nitrate and ISE modules		Training: \$380 per pax <b>Training per group (up to 3 pax): \$800</b> Equipment use: \$25 per hour
<b>OMNIS Basic automated titrator.</b> Measures electrical conductivity, pH value, alkalinity, calcium and magnesium hardness, total hardness.		Training: \$200 Equipment use: \$25/hr
<b>Unisense MicroOptode system.</b> Microsensors not included (consumable)		Training: \$150

	Equipment use: \$15 per hour/ \$100 per day
<b>Unisense Microprofiler system.</b> Microsensors not included (consumable)	Training: \$150  Equipment use: \$15 per hour/ \$100 per day
<b>Histology – Thermo Scientific Shandon Citadel 2000 Tissue Processor</b> (inclusive of tissue embedding; ethanol, histoclear, paraffin wax & tissue cassette)	Tissue Processing + Microtome Training: \$150  Equipment use: \$120 per day
<b>Histology - Leica RM2135 rotary microtome.</b> Section thickness setting from 1-60 µm	Equipment use: \$20 per hour
<b>Histology – Staining apparatus.</b> Includes basic chemicals such as histoclear, ethanol, hematoxylin, eosin, hydrochloric acid & mounting media	H&E Staining Training: \$150  Equipment use: \$20 per hour
<b>Speedvac.</b> Centrifugal vacuum concentrator. Cools to – 4C with a heater that warms to +100C. Equipped with cold trap (-84C) and HPLC-vial compatible rotors	Equipment use: \$10 per hour/ \$60 per day
<b>Buchi Rotary evaporator.</b> Benchtop unit. Sample flask 20ml to 2L, with receiving flask up to 1L.	Equipment use: \$25 per day
<b>Freezer dryer.</b> Benchtop unit, equipped with a 12-port vertical manifold.	Equipment use: \$5 per port per day

**e) Other Facilities**

Description	Charges
Seminar room (60 pax)	\$250 per day
Teaching Laboratory (30 pax)	Equipped with laboratory benches, overhead projector
	Teaching microscopes
Accommodation	Per piece \$10 per hour/\$50 per day
	Shared dormitory rooms, airconditioned (5-8 pax per room)
	\$30 per person per night
	Single/Double rooms
	\$60 per room

Outreach & Education

	Academic (i.e., IHLs, government agencies)	Non-academic (i.e., industry/private sector/public)
Researcher or staff with Bachelor's degree	\$60 / hr	\$100 / hr
Postdoctoral Fellow	\$80 / hr	\$130 / hr
Senior Researcher/ Scientist	\$150 / hr	\$240 / hr