

**Experiment-Based Risk Assessment Form**

Name of Department Biological Sciences Location of Room S1A #03-07/ S1A #01-09  
 Room Name Confocal Microscopy Lab Name of Supervisor Core Facility  
 Conducted By User to complete accordingly Name of Activity Use of Laser Scanning Microscope

No	Description/Details of Steps in Activity	Hazards	Possible Accident / Ill Health & Persons-at-Risk	Existing Risk Control (Mitigation)	Severity	Likelihood (Probability)	Risk Level	Additional Risk Control	Severity	Likelihood	Residual Risk Level	Person Responsible	By (Date)
1	Apply for Confocal Training and get access to Confocal lab	-	-	All users have to follow NUS/OSHE/M/13, NUS LaserSafety Manual. All new user should prepare the followings before attend confocal training: 1) Endorsed Risk Assessment form. 2) OHSE online laser safety training certificate. 3)Application of N3 license if she/he is going to use PE UV confocal and Leica TCS SP5 confocal.	User to complete accordingly	User to complete accordingly	User to complete accordingly						
2	Switch on buttons to initialize system. Log into user account on imaging work station.	Electrical equipment (microscopes, halogen lamps, mercury lamps, scanners, cameras and computers)	Electric shock	User to complete accordingly	2	1	2						
3	Put your samples on microscope stage.	Biological hazard - biological samples	Infection due to contact with spill of infectious biological samples.	User to complete accordingly	2	1	2						
		Chemical hazard -immersion oil is irritant	Skin irritation in case of contact of the immersion oil.	User to complete accordingly	2	1	2						
		Sharps hazard - Glass slides and coverslips	Minor cut from broken glass	User to complete accordingly	2	1	2						
3	Eye search for the interested view of your specimen.	Sharps hazard - Glass slides and coverslips	Cut from broken glass in the case objective hit and break glass slide.	User to complete accordingly	2	1	2						
		Light source such as LED	Eye damage from UV light (UV-A, UV-B & UV-C) exposure.	User to complete accordingly	2	1	2						

4	Acquire image under laser scan mode.	Radiation hazards- Lasers	Eye damage from lasers	1. Follow NUS/OSHE/M/13, NUS Laboratory Laser Safety Manual. 2. Attend OSHE non-ionizing radiation training course by following OSHE_SOP_GE_04_LumiNUS_ Instructions for Learners R9_150719. 3..Get help from facility staff whenyou encounter any problem. 4.Maintenance only to be performed by authorized personnel. 5. N3 license is required to operate PE spinning disc, TIRF and 3I diSPIM laser equiped microscopes. I. When use PE spinning disc and 3I, keep enviornimental enclosure closed and do not look at laser beam. II. When use FV3000 confocal, keep the enclosure boxdoors closed all the time. III. When use LSM900, cover sample with provided stagecover all the time during imaging acquisition.	2	1	2							
		Ergonomics - strain on back	Postural damage from extended periods of time working at microscope and computer.	Maintain good posture at all times whilst working at the microscopes and computers. Take a break every 15 min when you continuously work with microscope/computer.	2	1	2							
5	After use imaging, remove your specimen from microscope stage. Clean objectives. Log off software.	Biological hazard - biological samples	Infection due to contact with spill of infectious biological samples.	<b>User to complete accordingly</b>	1	1	1							
		Chemical hazard -immersion oil is irritant	Skin irritation in case of contact of the immersion oil.	<b>User to complete accordingly</b>	1	1	1							
		Sharps hazard - Glass slides and coverslips	Minor cut from broken glass	Carry slides/coverslips in suitable container. Dispose of any broken slides/coverslips immediately in Sharps containers provided. Dispoal sharps bin by following DBS_SOP_012- Chemical Waste Disposal in DBS.	2	1	2							
7	Clean bench, record down on log book. The last user to switch off the whole system.	Electrical equipment (microscopes, halogen lamps, mercury lamps, scanners, cameras and computers)	Electric shock	1. All users have to take Confocal training course before they are allowed to access the confocal systems. 2. Follow Use of Confocal in DBS Confocal Microscopy Lab(SOP DBS/SOP/021), touch those labeled buttons only. 3. Facility staff should do regular checks of power cordsfor fault, fraying or wear and regular electrical safety checks. 4. Maintenance should be carried out by authorized person only.	2	1	2							

8	User need to bring biological samples back to research lab and discard as biological waste properly.	Biological agents	Infection by contact with infectious biological samples.	User to complete accordingly	2	1	2						
8	After office usage	One is fatigued or poor in health condition	Collapse without alarm	Inform lab members if you plan to work work in confocal lab alone after office hours. Work in pairs. Do not work after work in confocal lab alone after office hours.	1	1	1						

**Conducted By**

User to complete accordingly \_\_\_\_\_  
 User to complete accordingly \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Approved By**

Name User to complete accordingly \_\_\_\_\_  
 Signature User to complete accordingly \_\_\_\_\_  
 User to complete accordingly \_\_\_\_\_  
 Approval date \_\_\_\_\_ Next Revision date \_\_\_\_\_  
 (Maximum 3 years)

User to complete accorc \_\_\_\_\_