

Experiment-Based Risk Assessment Form

Name of Department Biological Sciences Location of Lab S1A #03-07
 Name of Laboratory Confocal Microscopy Lab Name of PI Core Facility
 Name of Researcher/LO Tong Yan Name of Activity/Experiment Use of Laser Scanning Microscope I SM 510 and EV3000

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	Person Responsible	By (Date)
1	Switch on buttons to initial system. Log in system and software.	Electrical equipment (microscopes, halogen lamps, LED light, scanners, cameras and computers)	Electric shock	Put on PPE. All users have to take Confocal training course before they are allowed to access the confocal systems. Follow Use of Confocal/ Wide field Fluorescence Microscope in DBS Confocal Microscopy Lab (SOP DBS/SOP/021), touch those labeled buttons only. Facility staff should do regular checks of power cords for fault, fraying or wear and regular electrical safety checks. Maintenance should be carried out by authorized person only.	2	1	2			
3	Put your samples on microscopy stage. Eye search for the interested view of your specimen.	Biological hazard - biological samples	Infection due to contact with spill of infectious biological samples.	Follow SOPDBS_SOP_026 - Handling Biological Spill (DBS-update May 2016).doc. Wear proper PPE - latex gloves, lab coat, covered shoes, full pants.	2	1	2			
		Chemical hazard - immersion oil is irritant	Skin irritation in case of contact of the immersion oil.	Wear gloves when apply immersion oil on the objective lense. Wash hands with disinfectant after use.	2	1	2			
		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. Dispose of any used slides/coverslips correctly. Follow DBSPTM_SOP_01 handling sharps, for Safe handling of sharps.	2	1	2			
5	Acquire image under laser scan mode.	Radiation hazards- Lasers	Eye damage from lasers (UV and visible lasers)	1. The black acrylic enclosure covers the microscope and blocks the laser from the stage. Keep the enclosure closed during scanning. 2. Get help from facility staff when you encounter any problem. 3. Maintenance only to be performed by authorized personnel. 4. Attend OSHE non-ionizing radiation training course before access the system. 5. Refer to NUS/OSHE/M/13, NUS LABORATORY LASER SAFETY MANUAL	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			
6	After use, remove your specimen from microscope stage. Clean objectives. Log off software and your user account.	Biological hazard - biological samples	Infection due to contact with spill of infectious biological samples.	Follow SOPDBS_SOP_026 - Handling Biological Spill (DBS-update May 2016). Wear proper PPE - latex gloves, lab coat, covered shoes, full pants.	1	1	1			
		Chemical hazard - Leica and Zeiss immersion oil is irritant	Skin irritation in case of contact of the immersion oil.	Wear gloves when apply immersion oil on the objective lense. Wash hands with disinfectant after use.	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. Dispose of any used slides/coverslips correctly (DBSPTM_SOP_01 handling sharps).	2	1	2		
7	Clean bench, record down on log book. If you are the last user of the day, you need switch off the whole system.	Electrical equipment (microscopes, halogen lamps, mercury lamps, scanners, cameras and computers)	Electric shock	Put on PPE. All users have to take Confocal training course before they are allowed to access the confocal systems. Follow SOP (DBS/SOP/021), touch those labeled buttons only. Regular checks of power cords for fault, fraying or wear and regular electrical safety checks. Maintenance should be carried out by authorized person only.	2	1	2		
8	Bring your biological samples back to your lab. No such sample are allowed to be left unattended in confocal lab.	Biological agents	Infection by contact with infectious biological samples.	wear proper PPE- latex gloves, lab coat, covered shoes, full pants. Dispose samples according to DBS_SOP_002 - Biological waste disposal	2	1	2		

Conducted By

Approved By

Name

Signature

Approval date

Next Revision date February 8, 2020
(Maximum 3 years)
