

National University of Singapore

Doc No. : CIBA/RA/Eq/CIBA/RA/Eq/

Experiment-Based Risk Assessment Form

Name of Department PHYSICS
Name of Laboratory CIBA Optical Materials and Devices Lab

Location of lab S11-02-09
Name of PI Asst Prof Andrew Bettiol

Name of Researcher/LO Turaga Shuvan Prashant, Vanga Sudheer Kumar

Name of Activity/Experiment Supercontinuum Laser Source

No	Description/Details of Steps in Activity	Hazards	Possible Accident / ill Health & Persons-at-Risk	Existing Risk Control (Mitigation)	Severity	Likelihood (Probability)	Risk Level (severity x probability)	Additional Risk Control	Person Responsible	By (Date)
1	Laser Alignment	Laser Light	Laser light shining directly into eyes can cause permanent blindness. (burning of corneas)	1. All users to wear laser goggles of appropriate wavelength, microscope eyepiece is permanently blocked. 2. Black non-reflective boards barricading areas where laser beams are aligned. 3. Keep the MIRA cavity closed at all time. 4. Use IR card for alignment.	2	1	2			
2		Fire hazard	1. Fire due to high power femtosecond IR Radiation 2. Skin burn by laser beam	1. Always close the laser shutter when the laser is not in use 2. Reduce the power to minimum during laser alignment 3. Cover the beam path when laser is in use 4. No flammable substances or paper should be placed in the beam path. 5. Use metal shields to block reflected/scattered light	2	1	2			
3		Reflected/ Scattered laser light	Reflected laser light can cause permanent blindness.	1. No jewellery or wrist watch is allowed when working with lasers. 2. 'LASER IN USE' sign lighted when laser work is carried out.	1	1	1			
4		Overloading of laser power source	Electrical Short-Circuit	1. Label stating maximum allowed current allowed for each power supply. 2. Do not open power supply	1	1	1			
5		Focused laser light using objectives	Focused laser spot can ignite paper.	Use IR Card for alignment instead of paper. Reduce the laser power down to 50 mW before alignment.	1	1	1			

Conducted By Turaga Shuvan Prashant
Vanga Sudheer Kumar

Approved By
 Name Asst Prof Andrew Bettiol

Signature _____

Approval date _____

Next Revision Date _____
 (Maximum 3 years)

