Local Rules for the Use of the Fianium super continuum laser
Location: Cancer Research UK Cambridge Institute, Light Microscopy Facility, Room 034E

These local rules cover the use of the Fianium super continuum laser located in room 034E in the light microscopy facility. They cover the normal use and user maintenance operations and service operations. They implement the University’s laser safety policy at a practical level and form part of the University’s duties under section 2(3) of the Health and Safety at work etc Act 1974.

Description
Super continuum laser (Fianium), class 4, pulsed, 4W, emitted wavelengths 450 – 1800nm.

Authorised Users
Only light microscopy facility staff and persons who are adequately trained by the light microscopy facility staff and are on the authorised users list may use the Fianium laser. Authorised users should be familiar with emergency procedures and the location of safety equipment e.g. fire extinguishers.

Laser controlled Area
Unauthorised personnel must always be accompanied by authorised users. The room is a Designated Laser Area and the laser safety interlock must always be activated when using the laser.

Procedures
All non-routine alignment is to be carried out by qualified service personnel or by a member of the microscopy facility only.

Protection measures
Class 4 lasers
The Fianium super-continuum is a pulsed IR laser, which can be harmful to the eyes and skin

- When starting up or shutting down the infrared lasers, follow the correct procedure.
- Do not place your fingers near to the focus of the objective when handling samples.
- Never look directly into a reflected or full laser beam
- Avoid direct contact with the laser beam
- Avoid eye and skin exposure to scattered laser beam radiation
- If any tool is needed for any change on the microscope (e.g. when changing the objective), use the laser shutters and deactivate the laser.
- For alignment use the lowest wavelength and less than 1mW.
- Always use appropriate eye protection for the wavelength range: BS EN 207/208 and 1000-1400 DIRM LB7
- Never look directly into a reflected or full laser beam
- Avoid direct contact with the laser beam
- Always position yourself such that your eye level is above the level of the laser beam.
- No reflective attire that could come into direct contact with the laser beam i.e. rings, bracelets and watches, should be worn within the DLA. Non-reflective tools must also be used.

General
- Clear up any spillages or glass breakages immediately and report them to facility staff
- Dispose of all sharps in the sharps bin provided.
- Use lens tissue to remove oil from the objectives after use.
- Avoid contaminating the area with biological or chemical substances from samples.
- In normal circumstances the room is designed for a maximum of 3 people.

Summary of hazards
Class 4 laser radiation:
- Eye hazard from both direct beam and scattered radiation
- Retinal hazard – exposure may result in permanent retinal damage within a fraction of a second
- Skin hazard – exposure may result in skin burns and photochemical damage
- Prolonged exposure to the fluorescent light source can cause long-term damage to the eyes and skin.

See the laser risk assessment for additional rules

Contingency Plans
- In the event of any eye injury or suspected eye injury, proceed straight to Addenbrookes Accident and Emergency and tell staff that it concerns a laser eye injury. Get advice from Moorfields Eye Hospital (020 7253 3411)
- In the event of skin injury or suspected skin injury, proceed straight to Addenbrookes Accident and Emergency (01223 217 118).