**SCHOOL OF ENGINEERING**

**DYNAMICS LABORATORY**

**SUPPLEMENTARY SAFETY INFORMATION**

### Revised August 2014

TO BE READ IN CONJUNCTION WITH THE SCHOOL SAFETY HANDBOOK

Academic Co-ordinator:

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Document approved for issue by Dr R.D. Neilson

# Signature:\_\_\_\_\_\_\_\_\_\_\_\_ Date:29th September 2014


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TRAINING & RISK ASSESSMENT

All persons commencing work in the lab must undergo a formal Laboratory Induction in addition to the Basic Induction they received on arrival at the School. In addition to records of induction training, records must also be kept of all further training provided necessary to operate equipment or work in the Dynamics Lab.

No work should commence in the lab until a risk assessment has been completed in conformance with School procedures as stated in the School Safety Handbook.

All personnel working in the Dynamics Lab must sign the attached sheet confirming they have read the Dynamics Laboratory Supplementary Safety |information handbook.

ELECTRICITY

The Estates Section is responsible for the provision and maintenance of a safe electrical supply.

When undertaking any maintenance work on electrically powered equipment, the power supply should either be isolated and padlocked off or, in the case of 13Amp plugs, plugs should be removed from their sockets and the plug and cable returned to the equipment being worked on.

Electrical equipment should **NOT** be opened without permission of the Lab Co-ordinator or supervisor and only personnel with the necessary experience and knowledge are allowed to work on electrical equipment

All electrical equipment must be inspected before use to ensure it is in a serviceable condition and damage free, report all problems to the Technician.

DANGEROUS MOVING PARTS

The lab uses equipment with potentially dangerous moving parts. When working with equipment with dangerous moving parts the equipment must be adequately guarded to prevent accidental contact to the experimenter or any other persons in the lab. Portable floor standing screens are available and can provide guarding for some equipment.

When setting up or adjusting electrically powered equipment with dangerous moving parts, the power supply should be isolated and padlocked off or, in the case of 13Amp plugs, plugs should be removed from their sockets and the plug and cable returned to the equipment being worked on.

All emergency stops must be fitted and appropriately positioned so that access to them is available by either the operator or other personnel in case of emergency.

Equipment should only be operated with the express permission of the Lab Co-ordinator or supervisor and only after adequate training has been given.

## COMPRESSED AIR

Some equipment such as the V806 and V705 shakers require compressed air to support the armature and load. The Resident Technician will make any connections to machines requiring compressed air. Never direct compressed air at anyone. It has been known for people to be killed by the misuse of compressed air.

SHAKERS

The shakers use electricity, power amplifiers and compressed air to provide up/down motion. During all experiments guarding consisting of floor standing mobile screens must be used to prevent injury from flying objects. The guards should be positioned to cover all likely directions in order to provide protection to the operator and all other lab users. All equipment for which access is required when the shaker is operating should be positioned on the safe side of the screen.

Before use, the correct positioning of the body and armature of the V806 and V705 electromechanical shakers should be checked and adjusted if required by use of the relevant air suspension system. Failure to do so may result in damage to the shaker and expose the user to the possibility of trap hazards for hands etc.

All personnel using shaker must be trained and recorded as competent before being allowed to use the shakers without supervision.

SLIPS AND TRIPS

Slips trips and falls is the major cause of accidents in the workplace and the main walkways and work areas must be kept clear of objects. There should be no trailing cables crossing walkways. If it is absolutely necessary to have trailing cables, they should be covered with a suitable ramp or rubber cable protector. All fluids and Oil spills must be cleared up immediately.

MANUAL HANDLING

Loading of the shakers or any other device in the lab must be included as part of the risk assessment and if necessary mechanical aids used to lift the equipment onto the shaker. Appropriate footwear should be used when handling heavy loads ie safety shoes.

## CHEMICALS

A list of chemicals and their safety data sheets must be kept up to date and filed in the appropriate folder. Solvents and acids must be stored in separate cabinets.

All Chemicals used in both maintenance and experimental work must be addressed in the Risk Assessment.

## HAND TOOLS

Hand tools must be maintained in good condition.

Safety goggles, footwear and gloves must be used when necessary.

## FOOD AND DRINK

No food or drink is allowed in the Dynamics Lab.

## VISITORS

All visitors should be cleared with the technician and briefed about all relevant hazards before entering the Dynamics lab. Visitors should not be left in the Dynamics lab on their own.

DYNAMICS LAB REGISTER

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| NAME (print) | DATE | SUPERVISOR (print) |
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