Risk Assessment Form

(This is an active document and must be maintained)

UNIVERSITY OF CAMBRIDGE

Materials Science and Metallurgy

Date: 30th March 2020

Supervisor of Room/Area: **Prof. Serena Best & Prof. Ruth Cameron**

Room or area: **2_012 (Microtomography lab)** (Describe location)

Name of Assessor(s): **Wayne Skelton-Hough**

Title of Activity / Experiment / Work Area:

Use of X-ray Microtomograph (Skyscan-1172 & 1272) in the Microtomography lab (2_012)

Description of Activity / Experiment / Work Area:

Normal operation of Skyscan-1172 or 1272 X-ray microtomograph (XμT) to acquire 3D images of materials artefacts etc. as per operating instructions and training provided.

The μ-CT machines are located in a side lab where no other hazardous work takes place, this arrangement obviates the need to wear safety eyewear in this lab when operating the μ-CT equipment.

Note: this does not cover any specific or extraordinary risks or hazards associated with the materials to be imaged. Any such risks or hazards **MUST** be addressed elsewhere **BEFORE** any XμT work is attempted.

SECTION 1: Identify all significant hazards, who or what may be affected by each individual hazard and controls in place to reduce risk to a minimum.

Hazard Description	Hazard to whom or what	Controls in place to reduce risk to a minimum
Possible exposure to X-rays	Operator and anyone else nearby	• Shielding is built into the XμT, interlocked with the X-ray source, keeping exposure to very safe levels during normal use. Anyone ignoring or attempting to circumvent this will be banned from further use. • The integrity of the shielding was checked during installation (test certificate available) and further checks to be made as per local rules at 6 monthly intervals. • Source of radiation leak to be investigated if >1000s-1 using type 44B probe (0.5 μsh-1) • No changes to the instrument to be made except by authorized engineer.

Electrocution	Operator	• Inspect all electrical equipment and power cables before use and do not use any equipment that shows any signs of damage. • Ensure electrical equipment carries an up to date PAT label before using it.
Risk of trapping hands in the door	Operator	• Sample door is closed by selecting icon within the XμT control software. Door closing should only be initiated by person loading the sample.

SECTION 2: Emergency **Procedures**

In event of evacuation (e.g. fire drill or other emergency), the XμT may safely be left unattended.

Normal control of the XμT is by the computer (including turning off of the X-ray generator). A key at the right hand end of the machine controls power.

Mains electricity (240 V AC) is provided by the plug sockets behind the machine and no other services are used.

Signature of Assessor(s)		**Date:** 30/03/2020
Signature of Supervisor		**Date:** 4/6/20

SECTION 3: Review - This assessment must be reviewed every 12 months or earlier if the basis of the original assessment is altered.

Review Date	Reviewed by (Signature)

Review Date	Reviewed by (Signature)

Change log

Change	Date	Updated by	Description
1	15/09/2017	W. Skelton-Hough	Document issued.
2	30/03/2020	W. Skelton-Hough	Reference to Skyscan 1072 removed. Note added to description stating that there is no need to wear safety glasses when using the µ-CT machines in the Microtomography lab.