School of Engineering	Method Statement
Title Experimental PTV with LED illumination	
Location of Activity B185 Labs 1 and 3	**Date** 23/10/2023
Assessor Natalie Ko-Ferrigno	**Contact Details** *Tel: 07734246427* *Email: mkf1g21@soton.ac.uk*
Supervisor John Lawson	**Contact Details** *Tel:* *Email: j.m.lawson@soton.ac.uk*

Introduction / Overview.

This activity is to capture experimental data to test a method to allow PTV to become cheaper. This will be done by having a large tank of water, mixing in Vestosint 2159 particles, and generating a vortex ring in the fluid.

Description of Task and how it will be carried out.

The sensors for the experiment will be4 a small array of Raspberry Pi cameras and Raspberry Pis. They will be mounted to a rail and pointed at the tank of water. GSVitec LED panels will be pointed at the tank from the other side. Then, the tracer particles will be mixed in. Finally, the lights in the room will be turned off, the vortex ring generated, the LEDs pulsed and then the lights will be turned back on.

Control Measures including training, PPE

Working with electronic equipment

- Use low-voltage electronics
- Keep electronics elevated to avoid pooling water
- PAT test power supplies

Irritation from polyamide tracer particles

- Minimise dust generation through minimising handling
- Only handle in areas of adequate ventilation
- Wear gloves, FFP1 dust mask and safety glasses

Assembly and disassembly of equipment

- Ensure a clean working area
- Ensure power supplies are off before working on the equipment

Emergency Arrangements

If an emergency occurs such as a fire or life-threatening injury or event, the labs have a landline that can be used to reach for help using the emergency service number 3311/023 8059 3311.
In case of a fire, each lab has signs leading to the nearest exit leading to the evacuation point in the centre of the Boldrewood campus. The building has a fire alarm system which is tested weekly.
There is first aid information for the trained staff first aiders in the lab and if emergency services are needed then call 999.

Additional persons involved in activity
Jörg Sommerau, jts1c23