BSc in Reproductive & Developmental Sciences &

BSc in Surgery and Anaesthesia Project Outline 2011-2012

**Project Title:** Trauma Team Assessment and Training in virtual worlds: an international feasibility study

**Academic Supervisor:** Mr Barry Paraskeva

**Division:** Surgery

**Section:**

**Co-supervisor:** James Kinross, David Taylor, Daniel Cohen

**Who will be responsible for day-to-day supervision?** Daniel Cohen

**Contact Details of Person whom Medical Student should contact for further details:**

**Name: Email: Tel:**

Daniel Cohen daniel.cohen@imperial.ac.uk

**Group’s Research Interest:**

Virtual Worlds and Medical Media

(Double click the appropriate check box to indicate your choices below)

**Is this a clinical [x]  or laboratory [ ]  project?**

**Suitable project for: Reproductive and Development**  **Sciences** Yes **[ ]** No **[ ]**

**Surgery and Anaesthesia** Yes **[x]** No **[ ]**

**Synopsis of project (background/research question/methods to be used/relevant key references):**

**Background:**

The MISSIVE project (Major Incident Scenario Simulation in Virtual Worlds) explored the feasibility of using virtual environments, such as Second Life, to help emergency responders train for major incidents. As part of the project, The Medical Media and Design Laboratory in the Division of Surgery have created a virtual resuscitation room with a physiologically “real” trauma patient. The virtual patient can be treated by a virtual avatar trauma team, using real-time web-based menus, under guidance from the trauma team leader. To date, clinicians from Imperial College Healthcare Trust have helped establish the feasibility of running the scenario in a Virtual Environment. Tools have been developed to assess the technical and non-technical skills performance of the trauma team leader. To date, virtual worlds have not been used for medical training/assessment internationally.

**Aims:**

The aim of this project is to establish the feasibility of using the existing trauma scenario for training and assessment of different cohorts of healthcare professionals globally. We have identified medical partners in South Africa to participate in the study and are hopeful of working with at least one other country.

**Study design:**

This work will be a prospective cohort study. It will assess the capacity of virtual worlds to teach trainee doctors and medical students about the basics of leadership, communication and decision making in the management of major trauma. Data will be collected via objective observation and subjective assessment and questionnaire data.

**Study requirements:**

Prospective students should have an interest in medical media and medical education. Previous experience of virtual worlds and software programming is not necessary, but effective communication skills are important as you will be working with subjects internationally and you should be comfortable working within a team involving clinicians and virtual world developers.

During the project the student will be expected to setup, co-ordinate and run virtual world trauma scenarios involving participants from around the globe. There may be an opportunity to do some graphic and technical development of a major incident scenario in the virtual world.

The Student would develop knowledge and skills in trauma management, together with an improved understanding of the potential for virtual worlds technology in medical education. The student would also be encouraged to write up the project for submission to a conference/journal in due course.

Further information on the project can be found at <http://www1.imperial.ac.uk/medicine/about/institutes/patientsafetyservicequality/research_themes_2/cpssq_research_themes/major_incident_simulations/>

To gain an insight into the work on this project to date, please see

<http://www.rockhopper.tv/programmes/619>

**Virtual World references:**

*1. Taylor D, Patel V, Cohen D, Aggarwal R, Kerr K, Sevdalis N, et al. Single and multi-user virtual patient design in the virtual world. Stud Health Technol Inform 2011;163:650-2.*

*2. Patel V, Aggarwal R, Osinibi E, Taylor D, Arora S, Darzi A. Operating room introduction for the novice. Am J Surg 2011.*

*3. Leong JJ, Kinross J, Taylor D, Purkayastha S. Surgeons have held conferences in Second Life. Bmj 2008;337:a683.*

*4. Wiecha J, Heyden R, Sternthal E, Merialdi M. Learning in a virtual world: experience with using second life for medical education. J Med Internet Res 2010;12(1):e1.*

Will the research involve work done under the Animals (Scientific Procedures) 1986 Act? Yes **[ ]** No **[x]**

**If YES*,***

Will the student be required to undergo Home Office training? Yes **[ ]** No **[x]**

Are the appropriate project and personal licences in place? Yes **[ ]** No **[ ]**

**Project licence**:

Licensee

Date of issue

Number

**Personal licence**:

Licensee

Number

**Will the research involve the use of genetically modified tissue?** Yes **[ ]** No **[x]**

**If YES**

Has the work been approved by the relevant GM Committee Yes **[ ]** No **[ ]**

Date approval was granted

Reference Number

**Will the project involve work on human subjects, human tissue or access to confidential patient information?** Yes **[x]** No **[ ]**

## If YES

## has ethical approval been obtained Yes [x]  No [ ]

## Date approval was granted 8th July 2011

## IC REC or IRAS REC number NW London REC 11/LO/0850 MISSIVE

**Note: Approval for any of the above MUST be in place before the student begins the project.**

**A risk assessment form will be required.**

**Project Payment**: I have an F account Yes **[ ]** No **[ ]**

## If you have an F account please give full account code: