Dr Richard Helyer
B.Sc., Ph.D.(Bristol)

Senior Lecturer

Area of research

Application of human patient simulation to biomedical and medical education

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Summary

My current role focuses on basic-science education and strategy in general, with specialisation in high-fidelity Human Patient Simulation.

My specific interests are the application of Human Patient Simulation, especially physiologic models, to the teaching key aspects of physiology in undergraduate curricula, and to blended pre- and clincial learning in medicine. I am the academic lead for the University of Bristol Biomedical Simulation Centre. I have published and presented on simulation at numerous workshops and as a keynote speaker.

My research background is in the area of ion channels, receptors and signalling molecules during development of the mammalian auditory system. Specifically I was interested in changes in expression patterns of these key molecules during development of the sensory hair cells of the cochlea. Techniques used include whole-cell patch-clamp electrophysiology.

Outside of simulation and research my roles have included school Director of Teaching, and I am currently the Programme Director for programmes with industrial study as well as a Unit Director. I have experience in management of teaching and teaching staff, programme and unit development, quality assurance. I have held numerous school and faculty roles.

Keywords

- simulation
- human patient simulation
- physiology
- education
- biomedical science
- physiological modelling

Memberships

Organisations

School of Physiology, Pharmacology & Neuroscience

Research Areas

- Teaching Innovation Group

Recent publications

- Gibb, J, Vasudev, A & Helyer, R, 2018, 'Simulation provides deep learning opportunities for medical students intercalating in the biosciences'. *BMJ Simulation and Technology Enhanced Learning*.
- Harris, J, MacMillan, F, Lloyd, E & Helyer, R, 2016, 'Teaching acid-base homeostasis using human patient simulation'. in: *Proceedings of The Physiological Society*.
- Helyer, R & Dickens, P, 2016, 'Progress in the utilisation of high-fidelity simulation in basic science education'. *Advances in Physiology Education*, vol 40., pp. 143-144
- Langton, P, Helyer, R & MacMillan, F, 2013, 'Quality of essay plans in finals papers correlates with the mark awarded to the essay by independent examiners'. in: *Proceedings of The Physiological Society*.
- Harris, J, Helyer, R & Lloyd, E, 2011, 'Using high-fidelity human patient simulators to teach physiology'. *Medical Education*, vol 45., pp. 1159 - 1160
- Corry, R, Jacob, A, Butlin, R, Lloyd, E, Helyer, R & Harris, J, 2011, 'Use of the high fidelity Human Patient Simulator (HPS) to demonstrate acid-base physiology to undergraduates'. in: *SESAM main meeting 2011, Granada*.
- Harris, J, Helyer, R, Lloyd, E & Lisney, S, 2011, 'Teaching respiratory physiology in a simulation-enhanced curriculum'. in: *Experimental Biology 2011 main meeting*.
- Corry, R, Butlin, R, Dickens, P, Lloyd, E, Harris, J & Helyer, R, 2010, 'Demonstrating real-time pressure changes during the cardiac cycle 'from the inside' using the high-fidelity Human Patient Simulator'. in: *SESAM main meeting 2010*.
- Helyer, R, Lloyd, E & Harris, J, 2010, 'A 'simulation-enhanced' curriculum for the teaching of physiology to undergraduate medical and biomedical sciences students'. in: *SESAM main meeting 2010*.
- Healey, B, Pedley, R, Brown, D, Helyer, R & Lloyd, E, 2010, 'Hypoxic pulmonary vasoconstriction: a comparison of the Human Patient Simulator with human data'. in: *Unknown*., pp. 75

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