

Editor's Note

Contributions are welcome from all areas of the Faculty—please send to me by the middle of the month.

Preeti Patel
p.patel@londonmet.ac.uk
School of Computing

Dunhill Medical Trust research award recipient

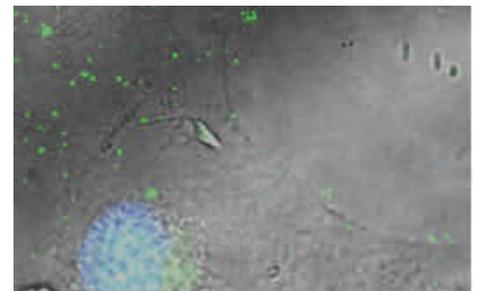


Dr Gary McLean joined Londonmet approximately 3 years ago from Imperial College, London where he was a research scientist studying the immune responses to the virus that causes the common cold. He performed the majority of his prior scientific training in North America at Universities in New York, Texas and British Columbia, Canada. His original scientific studies leading to PhD were performed in his homeland of New Zealand. He is now a Reader in Molecular Immunology within SHS.

He recently received a research award through the Dunhill Medical Trust to investigate the role of microvesicles in the spread of rhinovirus infections. **Prof Jameel Inal** and **Prof Seb Johnston** (Imperial College) are co-applicants. Microvesicles have been a major interest of the Cellular and Molecular Immunology Research Centre (CMIRC) and Prof Inal for some years whilst Dr McLean has a background in immunity to viral infections. The funding will support a full-time research assistant and the laboratory expenses required to carry out our experiments. Most of

the work will involve infecting cells with the virus that causes the common cold, rhinovirus, and then analyzing the timing, contents and function of the microvesicles produced. A smaller part of the project will measure the microvesicles found in human samples directly after an experimental rhinovirus infection. We hope to determine new aspects of the host response and pathology of the virus infection.

Microvesicles are small membrane cased particles that bud from cell membranes. They are released by virtually all cells and contain many of the molecules normally found inside cells. However they don't have a nucleus, as they are too small, but they do contain lipids, RNA, proteins and smaller molecules that they deliver to neighbouring cells. As such, microvesicles are intimately involved in cell to cell communication. Our hypothesis is that these microvesicles are produced by cells following viral infection and signal to other cells of the impending threat from the virus – in some rare cases they may even be hijacked by viruses and used for spread around the body. We will investigate these properties of microvesicles with the virus that causes the common cold. Ultimately we may unearth new properties of rhinovirus infections that could lead to novel therapies or diagnostics.



Microvesicle release (green) from a host cell infected with parasite (image courtesy of CMIRC)