RAINE MEDICAL RESEARCH FOUNDATION
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THE UNIVERSITY OF WESTERN AUSTRALIA

Raine Visiting Professor Lecture Series

Professor John Gordon

Professor of Cellular Immunology
MRC Centre for Immune Regulation
The Medical School, University of Birmingham, United Kingdom

will present a ***Raine Lecture*** *entitled:*

The Emergence of 'Neuro-Immuno-Pharmacology': Lymphoma Gets Nervous

on

Friday, 15 October 2010 at 1.00 pm

Molecular and Chemical Sciences (MCS) Lecture Theatre
Life and Physical Sciences Building (G.33)
Fairway Entrance No.4

All welcome

Professor John Gordon holds a Personal Chair in Cellular Immunology in the School of Immunity and Infection within the Medical School at the University of Birmingham, and he is a Senior Group Leader of the MRC Centre for Immune Regulation. Professor Gordon has gained international recognition for his research into human B lymphocytes and the cancers which arise therefrom: namely, leukaemia, lymphoma, and multiple myeloma. He has published extensively (> 200 papers) in internationally peer-reviewed journals including prestigious publications such as *Nature*, *Journal of Experimental Medicine*, *Proceedings of the National Academy of Science USA*, *Oncogene*, and *Blood*. He was recently recognised as one of the 'World's most highly cited researchers' putting him in the top 0.5% of all publishing scientists (www.ISIHighlyCited.com). In addition, he has contributed some 30 reviews, chapters and commentaries and has edited several books in his field.

Subject of the Raine Lecture: The perception that Mind and Wellbeing are inextricably linked has been extant since ancient times. There is the sense that the more positive we feel the more readily we shake off, say, a cold or 'flu virus: and perhaps get fewer of them. There are schools of thought extending this notion to cancer. While this may well be true, evidence has tended to be anecdotal. Researchers in the field known as *Psychoneuroimmunology* (PNI) are now addressing such issues empirically, though currently, the jury is still out. My own research has – for the past decade – entered this arena through a different door: one which has led to the conception of 'NIP' – *Neuro-Immunology-Pharmacology*. For us, NIP is: (i) the recognition that cells of the immune system express many (most/all?) of the molecular components that are typically associated with the central nervous system (CNS); (ii) that these 'CNS components' are regulated and functional in immune cell subsets; (iii) that their expression can be aberrant in immune pathologies; and (iv) that drugs established to target these pathways for the treatment of CNS disturbances should now be considered candidate therapeutics for immune system diseases such as allergy, inflammation and autoimmunity. Immune cells – particularly those of the B lymphocyte lineage (essential for antibody production) – are also targets for oncogenic transformation giving rise to a range of common leukaemias, multiple myeloma, and a large group of solid tumours termed lymphoma. For 35 years I have focused on seeking new ways to treat and manage B-lymphocyte malignancies. In this lecture I present a paradigm for NIP centred on our discovery that lymphoma populations express multiple components of serotonergic, and dopaminergic, signaling pathways and as such become potential targets for compounds that bind to and interfere with their proper functioning. These include commonly used, or abused, psychotropics such as Prozac and MDMA/'Ecstasy' and anti-Parkinson drugs L-Dopa and apomorphine.

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