For favour of posting

The Chinese University of Hong Kong

Seminar

Jointly Organized by
Department of Chemistry
and
Earth System Science Program

Speaker: Professor Yuk-Lam Yung
Division of Geological and Planetary Sciences
California Institute of Technology
U.S.A.

Title: Chemistry of Planetary Atmospheres

Date: November 1, 2016 (Tuesday)

Time: 4:30 p.m.

Venue: Room 103
Y.C. Liang Hall (潤昌堂)

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Contact Person:
Prof. Henry Wong /
Prof. H.K. Lee

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The Chinese University of Hong Kong
Department of Chemistry
Research Seminar Series

Speaker: Prof. D. Michael P. Mingos FRS
Oxford University

Title: The Chemical Bond - 100 years old, but still making an essential contribution

Date: November 4, 2016 (Friday)

Time: 4:30 p.m.

Venue: L1, Science Centre

<< Abstract >>

The seminal papers of Lewis and Kossel published 100 years ago have had an outstanding impact on the development of the chemical sciences. Their insights depended on the attainment of inert gas configurations by the atoms in molecules, either directly by electron transfer, or electron-pair sharing. The model somehow incorporated an evolutionary gene which has enabled it to survive and grow as the chemistry revealed new classes of molecules by incorporating the essential ideas of quantum physics. The simplicity of the model has resulted in the development of a notation, which is universally used by chemists and has evolved to trace the course of organic chemical reactions and predict their region-selectivities. The limitations of the model to inorganic molecules became apparent at an early stage and required more sophisticated quantum mechanically descriptions of hypo- and hyper- valent molecules. The model has been repeatedly enriched by quantum mechanically based theoretical insights, and I have been fortunate to contribute to some of these developments. The talk will celebrate 100 years of the chemical bond model and look forward to future developments.

Michael Mingos was born in Basra, Iraq in 1944 and was educated at Harvey Grammar School, Folkestone, King Edward VII School, Lytham St Anne's, University of Manchester (B.Sc. in Chemistry 1965) and University of Sussex (D.Phil, 1968). He has followed a peripatetic academic career in chemistry - Lecturer and Reader QMC and University of Oxford (Keble College), Sir Edward Frankland BP Professor and Dean at Imperial College and Principal of St Edmund Hall (1999-2009).

His theoretical research has resulted in generalisations which have greatly influenced the development and teaching of modern inorganic chemistry. Specifically the Wade-Mingos Rules which rationalise the structures of polyhedral inorganic molecules and the Green-Davies-Mingos Rules, which account for some of the reactions of organometallic compounds, are both widely cited in inorganic textbooks. He has experimentally verified some of his theoretical predictions, for example an icosahedral molecule containing gold atoms -which is relevant for understanding the metal's nano-technological possibilities. He has also contributed to the understanding of the bonding properties of nitric oxide, an important cellular signalling molecule involved in many physiological processes.

As series editor of *Structure and Bonding* (Springer) he has edited three volumes titled "The Chemical Bond 100 Years Old and Getting Stronger" to commemorate the 100 year Anniversary of Lewis and Kossel's contributions and their implications in 2016.

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Contact Person:
Prof. Thomas Mak