

## CURRICULUM VITAE

**PROFESSOR JOHN T. McMULLAN, B.Sc., M.A., Ph.D., D.Sc., C.Eng., C.Phys., F.Inst.P., F.Inst. Energy.**

### ACADEMIC QUALIFICATIONS

1961 B.Sc. (First Class Honours) Physics, Queen's University, Belfast  
1964 M.A. Physics, State University of New York  
1967 Ph.D. University of St. Andrews  
1980 D.Sc. University of St. Andrews.

### PROFESSIONAL QUALIFICATIONS

C.Phys., C.Eng., F.Inst.P., F.Inst. Energy

### EMPLOYMENT

1961-64 Research Physicist, Cornell Aeronautical Lab. Inc. of Cornell University, Buffalo, New York.  
1964-67 Lecturer in Physics, University of St. Andrews, Scotland.  
1968-84 Lecturer, then Senior Lecturer in Physics, New University of Ulster.  
1973-85 Head of Energy Study Group, New University of Ulster.  
1984-88 Reader in Physics, University of Ulster.  
1985-2004 Director, Energy Research Centre, University of Ulster.  
1988-2004 Professor of Physics, University of Ulster (Personal Chair)  
2004- Emeritus Professor, University of Ulster

### OTHER PROFESSIONAL ACTIVITIES

1974- Editor in Chief, International Journal of Energy Research, John Wiley and Sons Ltd.

### European Commission

Preparation of analyses of Non-Nuclear Energy R&D programmes, (DG XII), (1979-1987).  
Adviser on aspects of development of SPRINT programme, (DG XIII), (1987-91).  
Adviser on Techno-economic Assessment of Combustion and Fuel Conversion Systems (DG XII), (1987-91).  
Member of EC delegations to Japan on carbon dioxide mitigation (1990-1995).  
Member of EC delegations to China on Clean Coal Co-operation (1995, 1997, 1998).  
Member of Steering Committee of Clean Coal R&D Programme (DG XII), (1996- ).  
Assessor for AIR/FAIR Programme (DG XII) (1996, 1997).  
Chairman of Steering Committee for Clean Electricity and Heat Production R&D (DG XII) (2000- ).  
Chairman of Research Fund for Coal and Steel Technical Guidance Committee 2 (2004- )  
Evaluator for RFCS, DG-TREN and DG-RTD research programmes (1999 - )  
Chairman of PowerClean R&D Thematic Network (2002 – 2006)

### National and International Committees

Member of National Physics Committee of Royal Irish Academy (1991-2004).  
Member of UK Technology Foresight Energy Panel Clean Coal Task Force (1996-99).  
Member of DTI Advisory Committee on Clean Coal Technology (ACCCT) (2000-2003)  
Member of DTI Advisory Committee on Carbon Abatement Technologies (ACCAT) (2003-)  
Member of UK Technology Foresight Energy and Environment Panel (2000-)  
Chairman of UK Technology Foresight Energy and Environment Panel Energy Futures Task Force (2000).  
Member of DTI Clean Coal Technology Demonstration Review Group (2001)  
Member of the EPSRC Strategic Advisory Team for the Infrastructure and Environment Programme (2000-2004)  
Member of the World Energy Council, Global Coal Study Group  
Member of EPSRC Renewable and New Energy Technology (RNET) Panel (1999- ).  
Member of EPSRC SUPERGEN Review Group (2001)  
Member of EPSRC Energy Programme Advisory Committee (2000-2004)  
Member of EPSRC, NERC, ERC Committee to review the performance of the Tyndall Centre (2003)  
Assessor for Foundation for Research, Science and Technology, New Zealand (1993-2004).  
Assessor for Il Ministero dell'Universita' e della Ricerca Scientifica, Italy (1997- ).  
Assessor for Ministério da Ciência e da Tecnologia, Fundação para a Ciência e a Tecnologia, Portugal (1999- ).

Assessor for Nederlandse Organisatie voor Wetenschappelijk Onderzoek, Netherlands (1998-2004).  
Assessor for National Council for Scientific Research, Canada (1999).  
Project Assessor for British Council Training Design Group (1995-2004).  
International Judge for the Waste-management Education and Research Consortium International Competition, Las Cruces, New Mexico. *This prestigious programme is funded by the US Dept. of Energy, Los Alamos Labs., Westinghouse Corp., and General Electric Corp. It is a great honour to be invited to be an International Judge*

### **External Examining**

M.Phil. and Ph.D. External Examiner for fifteen universities and polytechnics in the United Kingdom, Ireland, India, Canada and New Zealand

**Publications** over 290 books and research papers (recent relevant sample attached).

### **CAREER RESUME**

**University Teaching and Research** I have been actively involved in university teaching since 1964, and have been responsible for the development and provision of a wide range of courses in physics, in fuel conversion, energy supply and energy policy. These have been given at undergraduate and postgraduate levels and as short courses for industrialists and teachers. At the research level, I have successfully supervised 36 Doctoral (D.Phil.) and five Masters (M.Phil.) degree students. I have acted as M.Phil. and Ph.D. External Examiner for fifteen universities and polytechnics in the United Kingdom, Ireland, India, Canada and New Zealand.

The emphasis of my research is highly practical and targeted on industrial need. It pivots around: -

- Techno-economic assessment of fuel conversion and advanced power generation technologies, including fossil fuels, renewable and waste-based energy sources. The emphasis is on environmental impacts, emission control and whole system optimisation, including fuel supply, preparation and ultimate waste disposal. There is a strong input into energy strategy and energy policy formulation.
- Refrigeration and air-conditioning equipment with emphasis on control, refrigerant-lubricant interaction problems and CFC replacement.
- Energy systems analysis.

I am and have been the coordinator of multinational EC projects and I have advised the European Commission on the techno-economic assessment of chemical process and combustion plant.

I have wide experience in industrial consultancy, advising large and small companies on aspects of energy conservation and the rational use of energy, on the development of heat pump, heat recovery and refrigeration plant, on the introduction of computer based control and logging systems and related areas, and in the stimulation of R&D programmes within SMEs.