



Curriculum Vitae Professor Dr Peter P. Edwards

Name: Peter Philip Edwards

Date of birth: 30 June 1949

Research Priorities: Inorganic chemistry, solid-state chemistry, metal-insulator transition, carbon dioxide

Peter Philip Edwards is a British chemist. He gained world renown for research into metals that lose their electrical conductivity regardless of environmental conditions such as pressure, temperature, and density, and become non-conductive insulators. His findings on these metal-insulator transitions create great potential in terms of technological applications.

Academic and Professional Career

- since 2003 Professor of Inorganic Chemistry, University of Oxford, Oxford, UK
- 1993 - 2003 Professor of Chemistry and Material Sciences, University of Birmingham, Birmingham, UK
- 1983 - 1987 Professor of Chemistry, Cornell University, Ithaca, USA
- 1979 - 1991 Lecturer in Chemistry and Conductors, Faculty of Chemistry, Jesus College, University of Cambridge, Cambridge, UK
- 1977 - 1979 Postdoc, University of Oxford, Oxford, UK
- 1975 - 1977 Postdoc, Cornell University, Ithaca, USA
- 1974 - 1975 Postdoc, University of Salford, Salford, UK
- 1974 Doctorate, University of Salford, Salford, UK
- 1970 Bachelor's Degree in Chemistry, University of Salford, Salford, UK

Honours and Awarded Memberships

since 2014	International Honorary Member, American Academy of Arts and Sciences, USA
since 2013	Member, Academia Europaea
since 2012	Member, American Philosophical Society, USA
2012	Bakerian Lecture, Royal Society, UK
2011	Einstein Professor, Chinese Academy of Sciences (CAS), China
since 2009	Member, German National Academy of Sciences Leopoldina, Germany
2007	Honorary Doctorate, University of Salford, Salford, UK
2003	Hughes Medal, Royal Society, UK
1999	Bourke-Liversidge Prize, Royal Society of Chemistry, London, UK
since 1996	Fellow, Royal Society, UK
1993	Tilden Prize, Royal Society of Chemistry, London, UK
1985	Corday-Morgan Medal, Royal Society of Chemistry, London, UK

Research Priorities

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Peter Philip Edwards investigates the chemical and physical features that give rise to certain material properties, for example electrical conductivity in the case of metals. Particularly important is his research into carbon, which in the form of graphite demonstrates metallic and thus conductive properties. In the form of diamonds, however, carbon is a very poor conductor of electricity and is even regarded as an insulator. His research has helped pave the way for innovative applications such as the development of novel materials for catalysts, and the production and storage of hydrogen. The way carbon dioxide is used has also benefited from his work, allowing the energy transition to proceed more rapidly and for energy to be extracted from fossil fuels in a way that is less harmful to climate and the environment.

Peter Edwards has also investigated transparent and electrically conductive materials that are used in flat screens or solar cells. To date, these transparent, conducting oxides (TCOs) have mainly been used in the form of rare, costly, and environmentally harmful indium tin oxide, which Edwards would like to see replaced by an affordable and resource-friendly material.