

CURRICULUM VITAE

Professor Sir
Richard Henry Friend



Born January 18, 1953, London, UK.

Nationality British

Education

1971 – 1974 B.A. in Theoretical Physics, Class 1, Trinity College, University of Cambridge.
1974 – 1978 Ph.D., Research Student in the Cavendish Laboratory, University of Cambridge and Research Fellowship, St. John's College, 1977.

Current University Position

1995 – Cavendish Professor of Physics, University of Cambridge.
1977 – Fellow, St. John's College, Cambridge.
2004 – Chairman, Council of the School of Physical Sciences.
2006 – Tan Chin Tuan Centennial Professor, National University of Singapore.

Other Employments/Consultancies

1996 – Chief Scientist, Cambridge Display Technology Ltd.
2000 – Consultant, Plastic Logic Ltd.

Previous Employments

1977 – 1980 Research Fellow, St. John's College, Cambridge.
1977 – 1978 Attaché de Recherche du CNRS, at the Laboratoire de Physique des Solides, Université Paris-Sud, Orsay, France.
1980 – 1985 University Demonstrator in Physics, University of Cambridge.
1985 – 1993 University Lecturer in Physics, University of Cambridge.
1993 – 1995 University Reader in Experimental Physics, University of Cambridge.
1986 – 1987 Visiting Professor at the University of California, Santa Barbara.
1987 Chercheur Associé au CNRS, Centre de Recherche sur les Très Basses Températures, Grenoble, France.
1992 – 1993 Nuffield Foundation Science Research Fellowship.
1980 – 1995 Teaching Fellow, St. John's College, Cambridge.
1984 – 1986 Director of Studies in Physics, St. John's College, Cambridge.
1987 – 1991 Tutor, St. John's College, Cambridge.
1998 – 2003 Member, Technology Advisory Council, BP plc.
2003 Mary Shepard B Upson Visiting Professor, Cornell University, USA.

Prizes

1988 Charles Vernon Boys Prize of the Institute of Physics.
1991 Royal Society of Chemistry Interdisciplinary Award.
1993 Fellow of Royal Society of London.
1996 Hewlett-Packard Prize of the European Physical Society.
1998 Rumford Medal of the Royal Society of London.
2000 Honorary Doctorate, University of Linköping, Sweden.
2001 Italgas prize for research and technological innovation (shared with Jean-Luc Bredas).
2002 Honorary Doctorate, University of Mons-Hainaut, Belgium.
2002 Silver Medal, Royal Academy of Engineering, London.

2002	McRobert Prize, Royal Academy of Engineering, London (awarded for engineering achievement by Cambridge Display Technology).
2002	Fellow, Royal Academy of Engineering.
2003	Faraday Medal of the Institute of Electrical Engineers.
2003	Gold Medal of the European Materials Research Society.
2003	Knight Bachelor (Queen's birthday honours).
2003	Descartes Prize of the European Commission (coordinator of polymer LED project).
2004	Honorary Fellow of the Royal Society of Chemistry.
2004	Lee Kuan Yew Distinguished Visitor, National University of Singapore.
2004	Honorary Fellow, Trinity College, Cambridge.
2005	Jan Rachmann Prize of the Society for Information Display (shared with Jeremy Burroughes and Donal Bradley).
2006	Honorary Fellow, University of Wales, Bangor.
2006	Honorary Doctorate, Heriot-Watt University.
2007	IEEE Daniel E. Noble Award, shared with Dr. Steven R. Forrest and Dr. Ching Tang.
2008	Honorary Fellow, Institute of Physics.
2008	Honorary Degree, University of Nijmegen

Named Lectures

1994	Mott Lecture, Condensed Matter and Materials Physics Division of the Institute of Physics.
1997	Debye Lecture, University of Utrecht, The Netherlands.
1999	Rochester Lecturer, Department of Physics, University of Durham.
1999	Rolf Sammet Visiting Professorship, University of Frankfurt-Main.
1999	H.H. Johnson Lecturer, Cornell University.
2000	A.D. Little Lecturer, MIT.
2001	Xerox Distinguished Lecturer, Toronto.
2001	Engineering Lecture, University College of North Wales, Bangor.
2004	Kelvin Lecture of the Institution of Electrical Engineers.
2004	Holst Memorial Lecture and Medal, Philips Research Laboratories and Technical University, Eindhoven, The Netherlands.
2005	Inaugural Nakamura Lecture, University of California, Santa Barbara, USA.
2006	Clifford Paterson Lecture, Royal Society.

Citations

Identified by ISI as the most-cited UK-based scientist working in the physical sciences over the decade 1990-1999. Identified by ISI as one of the 2 most-cited physicists based in the UK.

Research Interests

I have pioneered the physics and engineering of semiconductor devices made with carbon-based semiconducting polymers. I have shown that polymers such as poly(phenylene vinylene), can be processed to form high-performing semiconductor devices, and my research group was the first to demonstrate using polymers: clean operation of field-effect transistors (1988), light-emitting diodes (1990), efficient photovoltaic diodes (1995), optically-pumped lasing (1996), directly-printed polymer transistor circuits (2000) and light-emitting transistors (2006).

This work has revolutionized the understanding of the electronic properties of polymeric semiconductors, which are now recognized to be very suitable for use in semiconductor devices. It has also made possible new applications for semiconductors, particularly for solid-state light-emitting displays using polymer light-emitting diodes. Products based on these discoveries, in the form of cell phone displays, are now in the market. The impact of this technology may prove to be of immense significance: the fabrication of semiconductor devices and circuits by direct printing is radically different from the traditional patterning and process technologies of inorganic semiconductors, and will allow directly-printed semiconductor circuits to be manufactured at much lower cost. I have developed this work both within the University of Cambridge and also through the formation of two companies, Cambridge Display Technology and Plastic Logic.