The Royal Academy of Engineering

New Fellows 2008

HONORARY FELLOWS

CONWAY, Sir Gordon
Chief Scientific Adviser at the Department for International Development (DFID) and Chair of International Development, Centre for Environmental Policy, Imperial College London

GLOVER, Anne
Chief Executive Officer, Amadeus Capital Partners Ltd

LAWRENCE, Vanessa
Chief Executive and Director General, Ordnance Survey

WINSTON, Lord (Robert)
Emeritus Professor of Fertility Studies at Imperial College; Member, Council of EPSRC and Chair of EPSRC Societal Issues Panel

FELLOWS

BACON, David John
Professor of Materials Science, University of Liverpool

BOLTON, Malcolm David
Professor of Soil Mechanics and Head of the Geotechnical and Environmental Group, University of Cambridge

BRANDON, Nigel Peter
Chief Scientist, Ceres Power and Shell Professor of Sustainable Development in Energy, Imperial College London

BUNDY, Alan
Professor of Automated Reasoning, School of Informatics, University of Edinburgh

CARR, Michael Douglas
Chief Science Officer, BT plc

CLEEVELY, David Douglas
Industrial Fellow, University of Cambridge Computer Laboratory

CLYNE, Trevor William
Professor of Mechanics of Materials and Director of Gordon Laboratory, Cambridge University

DA SILVA, Jo
Director, Arup International Development, Arup Group

DAVIES, Charles William
Chief Technical Officer, Symbian plc

FLECK, Norman Andrew
Professor of Engineering, Director of Cambridge Centre for Micromechanics; Head of Mechanics, Materials & Design, Engineering Department, Cambridge University

GALLIMORE, Simon John
Chief of Thermo Fluids Systems Engineering & Engineering Fellow, Turbo Machinery Aerodynamics, Rolls-Royce plc

GOULETTE, Michael James
Executive Vice President Engineering and Technology - Operations, Rolls-Royce Group

GRAINGER, Philip Stanley
Technical Director & Chief Technologist, GKN Aerostructures

GRATTAN, Kenneth Thomas Victor
Professor of Measurement and Instrumentation and Deputy Dean, City University, London

GRAY, Iain Gilmour
Chief Executive, Technology Strategy Board, Department for Business Enterprise and Regulatory Reform (BERR)

HONEYMAN, Graham Aubrey
Chief Executive, Sheffield Forgemasters International Ltd

HOWISON, Simon
Group Engineering Director, BAE Systems Air Systems

HUDSON, John
Design Authority and Engineering Director, BAE Systems Submarine Solutions

JACK, Alan Galloway
Professor of Electrical Engineering, The University of Newcastle

JAMIESON, Andrew
Executive Vice-President Gas & Projects, Shell Global Solutions; Director, Woodside Energy Limited

KRAMER, Jeffrey
Dean of the Faculty of Engineering, Imperial College London

LEE, Joseph Hun-Wei
Pro-Vice Chancellor and Redmond Chair of Civil Engineering, The University of Hong Kong

LEVERTON, Timothy Andrew
Group Engineering Director, JCB

LOUGHHEAD, John Neil
Executive Director, UK Energy Research Centre

LYNCH, Michael
Chief Executive Officer, Autonomy Corporation plc

McEWAN, Ian Kenneth
Founder, Brinker Technology; Reader, Aberdeen University

McGEOUGH, Joseph Anthony
Senior Honorary Professorial Fellow, School of Engineering and Electronics, University of Edinburgh

NOBLE, Julia Alison
Professor of Engineering Science and Director, Wolfson Medical Vision Laboratory, Department of Engineering Science, University of Oxford

OWENS, David Howard
Professor of Control Systems Engineering and Head of Department of Automatic Control Systems, University of Sheffield

PADFIELD, Gareth Davies
Professor of Aerospace Engineering & Head of Department of Engineering, University of Liverpool

PAYNE, Stephen Michael
Vice President, Chief Naval Architect, Carnival Corporate Shipbuilding, Southampton

The Royal Academy of Engineering is pleased to announce that the above were elected Fellows at the AGM on 7 July 2008.

PRICE, Peter David
Director of Engineering and Technology, Civil Aerospace, Rolls-Royce plc

RAWSTHORNE, Alasdair
Chief Technology Officer, Transitive Corporation Ltd

RICKELL, Robert Andrew
Global Engineering Director, GKN Driveline Driveshafts

SHOTT, Ian
Founder and Chairman, Excelsym

SILVA, Sembukuttiarachilage Ravi Pradip
Director, Advanced Technology Institute and Nano-Electronics Centre, University of Surrey

SPURGEON, Sarah Katherine
Professor of Engineering and Head of Department of Engineering, University of Leicester

TITCHENER-HOOKER, Nigel
Professor of Biochemical Engineering, University College London

TOPHAM, Nigel Peter
Professor of Computer Systems, University of Edinburgh

TOUMAZOU, Christofer
Director and Chief Scientist, Institute of Biomedical Engineering and Winston Wong Chair in Biomedical Circuits, Imperial College London

UNDERWOOD, Ian
Professor of Electronic Displays, University of Edinburgh; Chief Scientific Advisor, MicroEmissive Displays Ltd, Edinburgh

VAN SOMEREN, Nicholas Benedict
Co-founder of ANT plc and nCipher plc

WIESNER, Christoph Stefan
Director, Research and Technology, TWI

WILSON, Tony
Professor of Engineering Science and Fellow of Hertford College, University of Oxford

INTERNATIONAL FELLOWS

DEWEY, Clarence Forbes
Professor of Mechanical Engineering, Massachusetts Institute of Technology; Member of the Faculty of Health Sciences and Technology, Harvard and MIT

DURST, Franz Josef
Managing Director, FMP Technology GmbH

GREITZER, Edward
Slater Professor of Aeronautical Engineering, Department of Aeronautics and Astronautics, Massachusetts Institute of Technology

IMBERGER, Jorg
Professor of Environmental Engineering and Director of Centre for Water Research, University of Western Australia

MUKHERJEE, Tridibesh
Group Director (Technology and Integration), Tata Steel Group

SEO, Jung Uck
Chairman of the Korea Foundation for International Cooperation of Science and Technology, Ministry of Science and Technology, Republic of Korea; President Emeritus, Institute of Electronics Engineers of Korea; Chair Professor, Sunchon National University, Korea; Chairman, e-Trade Facilitation Committee, Korea

HONORARY FELLOWS

Professor Sir Gordon Conway KCMG FRS
Professor Sir Gordon Conway has been the Chief Scientific Adviser at the Department for International Development (DFID) since January 2005. He also holds a part-time Chair in International Development at the Centre for Environmental Policy at Imperial College. Prior to joining the DFID, Sir Gordon was President of the Rockefeller Foundation (1998-2004) and Vice-Chancellor of the University of Sussex and Chair of the Institute for Development Studies (1992-1998).

He was educated at the Universities of Wales (Bangor), Cambridge, Trinidad and California (Davis) in the discipline of agricultural ecology. He has spent much of his life working in developing countries and in the early 1960s, while based in Sabah, North Borneo, he became one of the pioneers of sustainable agriculture. In 1976 he founded the Centre for Environmental Technology at Imperial College of Science and Technology in London, serving as professor for Environmental Technology at the College between 1970 and 1986. During this period he lived and worked in many countries in Asia and the Middle East. He then directed the sustainable agriculture program of the International Institute for Environment and Development in London before becoming the Representative of the Ford Foundation in New Delhi (1998 to 1992).

He has honorary degrees from the Universities of Sussex, Brighton, Wales and the West Indies, is an honorary fellow of the Institute of Biology and a fellow of the American Academy of Arts & Sciences and the Royal Society. He has authored numerous publications, including Unwelcome Harvest: agriculture and pollution (Earthscan, Island Press) and The Doubly Green Revolution: Food for all in the 21st century (Penguin and University Press, Cornell).

Throughout his career, Sir Gordon has been a tireless communicator of the potential for technology to alleviate poverty. His work, both in the UK and internationally, has done much to raise awareness of the relevance of science, technology and engineering to sustainable development. He has also overseen the expenditure of many millions of pounds on research to support the application of technology to development, and has personally been responsible for innovations that have made a real difference to the lives of poor people.

Sir Gordon is DFID's first ever Chief Scientific Adviser. In this post, he has been influential in shaping the Department's thinking on evidence-based policy making and

championing the role of scientists and engineers in the development of UK policies on poverty reduction and sustainable development across Government. He has taken a particular interest in engineering and the Academy's work, meeting regularly with Academy staff to provide input to the Academy's plans for engineering capacity building projects with African partners. Sir Gordon has also spoken at the Council Dining Club (January 2007) and contributed an essay for inclusion in the Academy's booklet on engineering and development (due to be published in 2008).

Anne Glover CBE, MPPM (Yale) MA(CANTAB)

In 1997, along with Hermann Hauser FREng and Peter Wynn, she co-founded Amadeus Capital Partners Ltd. She is the Chief Executive Officer of this company, which provides investment services to three venture capital funds and has already backed more than 60 companies. Anne contributes as a scientist, engineer, operating manager and venture capitalist. In recent years, she has helped to fund the launch of Optos, Southampton Photonics (SPI), Teraview, lastminute.com, Orchestream and more other currently quoted or acquired technology companies. She is currently on the board of two of them: MacRobert gold-medallist LSE-quoted Optos, which developed a laserbased imaging device for capturing a wide-field image of the retina; and AIM-traded SPI Lasers plc, which develops optical components for use in industrial, medical, defence and aerospace industries. Evidently, she has played a major part in fostering British technology businesses.

Anne Glover is a past Chairman of the British Venture Capital Association (BVCA), which represents around 165 UK-based private equity and venture capital firms. The BVCA is the public face of the industry, providing services to its members, investors and entrepreneurs as well as the UK government and media. For the past seven years, she has been a member of the council that runs the organisation and has served as vice-chairman and Chairman of the Technology Subcommittee. Anne Glover is also a member of the Technology Strategy Board, an arm's length organisation set up by Lord Sainsbury to advise government and getting up to £178m per annum to back key technologies where the UK can gain a competitive advantage. In 2006, she was appointed CBE for services to business. She is a fine role model for a vital part of the British economy and can confidently be expected to contribute to the Academy's interests in national policy and national policy formation and academic-industrial innovation.

Vanessa Vivienne Lawrence CB

Vanessa Lawrence has been Chief Executive and Director General of Ordnance Survey since 2000, following an earlier successful international career in the information and software industries. Ordnance Survey is known to most people for its range of leisure maps. However, its core business is the production of very large scale accurate and up to date mapping of the whole country. This provides the essential underpinning for a wide range of engineering activities: in transport, construction, resource extraction, energy and water distribution, agriculture, environmental and emergency services and so on.

Under her leadership, the Survey has completely re-engineered the whole process for the collection and publication of this vital survey information. Its earlier series of 230,000 digitised paper maps have been replaced by a single, seamless database of topographic information covering the whole of Great Britain. Unlike the earlier digitised maps, this database contains extensive details of every feature in the landscape, making it ideally suited for use in modern planning, design, architecture, navigation, emergency response and national security systems. This conversion from digitised maps to general purpose database is an accomplishment unique among the world's major mapping agencies, and the task was thought by many to be impossible. Parallel initiatives in the use of GPS and other technologies to gather survey data have led to significant improvements in the speed and accuracy with which Britain's ever changing landscape is recorded.

Her accomplishments at Ordnance Survey have been recognised by the awarding of Honorary Doctorates from several Universities. In addition to her role at Ordnance Survey, Vanessa is an active leader in the encouragement of best management, commercial and customer practices across many parts in Whitehall and other broader public sector; a role recognised by her being Chair of the Association of Chief Executives of Governmental Agencies.

Professor Lord Robert Winston FMedSci FRCOG FRCP

Robert Winston is a renowned scientist with an international reputation for his research into human reproduction. He is Emeritus Professor of Fertility Studies at Imperial College, a Member of Council of EPSRC and Chair of EPSRC Societal Issues Panel.

He has pioneered advances widely used in fertility and IVF treatment. Above and beyond his personal standing and contributions as a leading scientist, though, he has made a very considerable personal commitment to science communication; amongst the public he is perhaps best known for his work in popularising science.

Broadcasting regularly, he has made many highly successful television series on science, written a number of popular science books for both adults and children, and is a sought-after speaker to adult audiences and to children in schools. But he has not limited his energies to communicating 'his own' science; he believes that public engagement with science and engineering is vital and has done much to further this objective. Belonging to that rare breed of scientists who combine academic brilliance with charisma and a flair for communication with the general public, he served as President of the British Association for the Advancement of Science in 2005. In the House of Lords he speaks regularly on education, science and ethics. He was Chairman of the Lords Select Committee on Science and Technology 1999-2002, initiating enquiries into Antibiotic Resistance, Non-Food Crops, Nuclear Waste, Science and Society, Genetic Databases, Aircraft Passenger Environment, and Science in Schools. He is a board member and Vice-chairman of the Parliamentary Office of Science and Technology.

FELLOWS

David John Bacon BSc PhD DSc FIMMM FInstP CEng (67)

Internationally recognised for his research into the mechanical properties of metals and alloys and phenomena associated with radiation damage. He has also made a distinguished contribution to engineering education as Dean of the Faculty of Engineering at the University of Liverpool over extended periods.

Malcolm David Bolton BA(Cantab) MSc PhD(Cantab) CEng MICE (62)

Distinguished for his outstanding contributions to many aspects of soil mechanics and geotechnical engineering, covering a wide range of topics. Eminent for leading research on geotechnical centrifuge testing, fundamental soil mechanics and their applications to many practical engineering problems, including retaining walls, pile driving and offshore pipeline behaviour.

Nigel Peter Brandon BSc PhD CEng FIMMM FInstE (48)

Distinguished for his personal leadership and innovation in pioneering the rapid development and application of fuel cell technology through the establishment of

leading research groups and a commercial spin-out company to meet societal needs

Alan Bundy BSc PhD FRSE FBCS FAAAI FECCAI FAISB FIET (61)
A leader in the field of Artificial Intelligence. He has distinguished himself with outstanding contributions to the automation of reasoning and its applications to mathematics and formal methods of ICT system development. Particularly recognised for the invention of the technique of proof planning and the consequent construction, repair and evolution of formal models. This research has been recognised by receipt of major international prize awards and been readily adopted by a number of UK companies.

Michael Douglas Carr BSc FIET CEng (52)
Distinguished for leadership of a major research organisation and his success in creating tangible value from research results. Outstanding for his personal technical contribution to visual and multimedia communications and International Standards. Eminent for his leadership of international consensus forming bodies focusing on Technology solutions for Telecommunications systems.

David Douglas Cleevely BSc PhD(Cantab) FIET MIOD CEng (54)
Outstanding for his contributions to telecommunications, particularly the integration of engineering and economics and its application in technology development and regulation. Also for his work in combining academic and industrial projects and for promoting telecommunications.

Trevor William Cyne BA(Cantab) PhD FIMMM CEng (56)
Distinguished for his work on the thermo-mechanical behaviour of metal composites, layered systems, sandwich sheets, metallic foams and surface coatings; he is one of the few UK highly cited researchers (ISI). His work is characterised by close collaborations with small companies engineering new science into new products.

Jo Da Silva MA(Cantab) MIStructE MICE (41)
Outstanding for her delivery of engineering to ensure the relief and rehabilitation of communities and property following extensive damage from major - mostly natural - physical disaster. She is also distinguished for the engineering design of a series of important buildings developing the art of structural design and inter-disciplinary design addressing sustainability.

Charles William Davies BSc PhD FIET (54)
Distinguished for co-inventing and developing software for the Psion electronic organiser. Outstanding for pioneering object-oriented methods to write software for embedded devices, achieving high function with limited memory and low power. Exceptional for co-founding and strategic leadership of Symbian, world-beating wireless software company. An early adopter of open source software.

Norman Andrew Fleck MA(Cantab) BA(Cantab) PhD(Cantab) FRS FIMMM CEng (50)
Pre-eminent in advances in solid mechanics in the UK. He has made seminal contributions to the understanding and practice of Solid Mechanics in the design of structures and the material of which they are made. He established the basic understanding of the compressive microbuckling of fibre composites, optimal design of metallic foams and lattice materials, multifunctional sandwich panel design, the theory of cold rolling thin foil, powder compaction theory, and of the mechanics of ferro-electrics. He pioneered and leads the development of strain gradient, plasticity theory. His mathematical models for these are new standards in stressanalysis design software such as ABACUS.

Simon John Gallimore MA(Cantab) PhD(Cantab) FRAeS CEng (50)
Recognised nationally and internationally for his outstanding expertise and contributions to Rolls-Royce's turbomachinery aerodynamics. These have resulted in highly competitive and innovative compressor designs and helped Rolls-Royce secure a major share of the aero-engine market. He is now pioneering aerodynamic technology advances in turbine design.

Michael James Goulette HND CEng FRAeS FIoM (59)
Distinguished for engineering leadership of major modules of Rolls-Royce's gas turbines and acquisition of their technologies. He developed and patented turbine blade alloys; became Head of Materials, the Project Director for RB211 and Trent 700 and has contributed extensively to professional, government, academic and industrial bodies.

Philip Stanley Grainger BSc FRAeS CEng (56)
Distinguished for his establishment of leading capability in precision structural composites for UK aerospace and for GKN in particular. He is an outstanding aeronautical engineer who has both made key personal contributions to helicopter design and manufacture and directed and developed innovative teams of aerospace engineers.

Kenneth Thomas Victor Grattan BSc PhD DSc FIET FInstP FinstMC (54)
Has made an outstanding contribution to the application of fibre optic sensor engineering within the UK and his work is internationally acclaimed. His industrially relevant research has attracted generous funding from EPSRC/EU and, apart from his own field, involves extensive interactions with Mechanical, Civil and Structural Engineers.

Iain Gilmour Gray BSc MPhil CEng FRAeS (51)
Distinguished for his outstanding leadership of Airbus UK, preserving the continued development of large air transport wing technologies and manufacture in the United Kingdom. He was appointed as Chief Executive of the BERR Technology Strategy Board in November 2007.

Graham Aubrey Honeyman BSc MSc PhD FIMMM CEng (56)
Distinguished for the development and commercial realisation of super-clean, low-residual, forging good-strength steels, ductility and resistance to embrittlement in service at temperatures in the range 300-500°C. Also for serving the Power Generation, Petrochemical and Offshore industries; and for technical, commercial and managerial leadership of Sheffield Forgemasters International Ltd.

Simon Howison BSc FRAeS FIET (56)
One of the UK's most eminent aerospace engineers. He is the engineering leader and designated design approval signatory for many of the UK's most complex and technically challenging air programmes, such as the Eurofighter Typhoon, Nimrod MRA4 and Hawk. Through his Chairmanship of the BAE Systems UK engineering council he plays a leading role in the development of the company's overall engineering capability. His personal engineering acumen and leadership remain instrumental in securing the UK's place as a global centre of excellence in the air sector.

John Hudson BSc MBA CEng FRINA (48)
One of the UK's most eminent Naval Engineers. Following a distinguished career in ship design, spanning practical research, design engineering and engineering leadership, he is now responsible for the design and development of the UK's most advanced and complex naval engineering project, the Astute Class Nuclear Powered Attack submarine.

Alan Galloway Jack BSc PhD CEng FIET (58)
Distinguished for his outstanding contribution in the field of electrical machines and drive systems. After an early productive career in industry he had been responsible for developing an internationally renowned research group at Newcastle University. He has made a significant contribution to the analysis of electrical machines. This work has

contributed to the design of large turbo generators. He is responsible for the development of several novel machines, these include: fault tolerant permanent magnet machines and segmented rotor switched reluctance motors for aerospace applications and machines using powder iron technology for high volume production.

Andrew Jamieson OBE, BSc PhD FIChemE CEng (60)
Managing Director of Nigeria LNG Ltd, from 1999 to 2004 during which time he steered the company to complete its initial construction of two LNG trains, their start up and outstanding operation. Distinguished for his contribution to the commercial production and transportation of LNG, especially in sub- Sahara Africa.

Jeffrey Kramer BSc MSc PhD FACM FIET FBCS FCGI CEng (59)
Distinguished for innovative (and lasting) research contributions spanning the theory and practice of Distributed Software Engineering. Eminent in the field of Software Engineering with particular contributions in software Architecture (eg Conic and Darwin) and concurrent software analysis (eg LTSA) which have been adopted internationally by industry especially in the development of product software and academia - in teaching and research.

Joseph Hun-Wei Lee BSc(MIT) MSc(MIT) PhD(MIT) FHKAES FASCE FHKIE MCIWEM (55)
Distinguished for his contributions to environmental hydraulic engineering. His methods for predicting initial mixing of effluent discharges in moving water (including the Lee and Neville-Jones Equation and the JETLAG model) enabled the design of sustainable wastewater disposal systems and are used world wide. Outstanding leadership in hydraulic engineering in Asia.

Timothy Andrew Leverton BSc MBA EngD FIMechE CEng (49)
Outstanding for best practice high volume automotive concurrent engineering, including innovative team working, reducing time to ship and improving early production component reliability. Distinguished for developing the top-of-the-range, best selling Rolls-Royce Phantom and for leading JCB's record breaking Dieselmax land speed project.

John Neil Loughhead BSc(Eng) FCGI MSc CEng FIMechE FIET DIC (59)
Global warming is the most important issue facing the international community. In his various roles in GEC, Alstom and UKERC, he has made an outstanding contribution to energy systems research and development contributing to a solution. He has demonstrated inspirational technical leadership, not merely managerial competence, fully justifying Fellowship of the Academy.

Michael Lynch OBE, BA(Cantab) PhD(Cantab) MIET CEng (43)
Outstanding engineer and entrepreneur who has pioneered the use of Bayesian methods for classifying and processing data. Founder and Chief Executive Officer of Autonomy Corporation PLC, a world-class leader in information search, processing and personalisation technology for text, audio and video.

Ian Kenneth McEwan BSc(Eng) PhD BD CEng FICE FRSE (42)
Inventor and entrepreneur who has led the development of platelet® technology; an entirely new approach to sealing pipeline leaks. Multiple deployments in UK and Norwegian Continental Shelves have produced outstanding successes and the technology is now being fast tracked for commercial usage in the UK water industry.

Joseph Anthony McGeough BSc PhD DSc FRSE FIMechE FIET FCIRP (68)
Outstanding for his research, patents, applications and transfer to the UK, European and Global industry of his ground breaking work on non-traditional, particularly electrochemical, machining and engineering directorships of university spin-out companies. Distinguished for his work with surgeons on novel cutting tools for bone and tissue as an alternative to existing mechanical methods.

Julia Alison Noble BA(Oxon) DPhil(Oxon) FIET FIEEE CEng FRSA MICCAI (43)
Distinguished for her research in ultrasound imaging, as applied to cardiology, gynaecology, and oncology, and for image analysis in support of neuro-interventions. She continues to lead developments of her subject through conference organisation, development of new graduate courses, the Oxford Institute for Biomedical Engineering and engineering entrepreneurship.

David Howard Owens BSc PhD FIET FIMechE FIMA CMath CEng (60)
Distinguished for his fundamental scientific contributions to control systems engineering research, education and professional activities whilst holding senior management positions in three leading engineering universities including Dean of Engineering and Head of Control and Systems Engineering at Sheffield University.

Gareth Davies Padfield BSc PhD CEng FRAeS AHSM (60)
A world authority on helicopter flight dynamics, control and handling qualities. As Rotorcraft Chief Scientist at DERA, Padfield led a range of key national and international research programmes for the MoD and Industry and now heads up a multi-disciplinary University Department of Engineering while maintaining an outstanding research output.

Stephen Michael Payne OBE RDI, BSc(Eng) HonPhD(Science) CEng FRINA (48)
Internationally recognised as the world's pre-eminent designer of large passenger ships, both ocean liners (and Queen Mary 2 in particular) and cruise ships; together with project management and safety responsibility during construction.

Peter David Price BSc FRAeS CEng (49)
An outstanding engineer whose distinguished career at Rolls-Royce includes major contributions to civil and military aero-engines. He received The Royal Academy of Engineering Silver Medal for his eminent contribution to vertical lift propulsion design. His innovative and systems engineering skills now underpin all of the company's new civil aero-engine projects.

Alasdair Rawsthorne BSc FBCS (55)
Distinguished for inventing and bringing to market disruptive technology, initially conceived in the University of Manchester. This enables software to be migrated between incompatible computer processors and operating systems - with total integrity, in real time and with insignificant performance degradation. Outstanding for nurturing talented young software engineers.

Robert Andrew Rickell BSc MTech FIMechE CEng EurIng (48)
An exceptional mechanical engineer whose development of constant velocity front wheel drive (CV) systems has enabled GKN to become world leader in this field. Outstanding for the first major advance in CV technology for seventy years. Distinguished for deriving product test standards which have been globally adopted by the automotive industry.

Ian Shott BSc MDip INSEAD CEng FIChemE (51)
Distinguished for his engineering and leadership in the fine chemicals and pharmaceutical industry and for the creation of Excelsym a successful integrated group of Management Consulting, Molecular Development and Engineering Technology companies.

Sembukuttiarachilage Ravi Pradip Silva BA(Cantab) PhD(Cantab) FIET CPhys FInstP CEng (39)
Nominated for his outstanding contributions to nanotechnology. He is distinguished for seminal achievements in electron field emission and the low temperature growth of carbon nanotubes. These discoveries have attracted considerable industrial interest, resulted in

twelve patents and he has established two start-up companies that promise to revolutionise nanotechnology.

Sarah Katherine Spurgeon BSc DPhil FIET FInstMC FIMA SMIEEE CEng CMath (44)
Eminent for fundamental contributions to the development of nonlinear control and estimation methods, from theoretical developments through to trials and subsequent industrial support of technological exploitation. Distinguished for advancing the practice of both UK and International professional bodies and promotion of new methods of supporting early career stage female engineers.

Nigel Titchener-Hooker BSc PhD FIChemE MAIChE (46)
Distinguished for a pioneering role in laying foundations for the processing of a new generation of macromolecular medicines and for linking this to methods for making more systematic development decisions. In parallel he has made major contributions to establishing the education of a new type of engineer and in linking the new field to established professional bodies.

Nigel Peter Topham BSc PhD FBCS CEng CITP (47)
Distinguished for engineering excellence in the design of high performance, low-power embedded processors. Evidenced by his outstanding advances in the engineering of all ARC's licensable IP cores. He has personally advanced the state-of-the-art in microprocessor design through two start-up companies, one LSE-listed company, and he continues this with a strong academic publication record.

Christofer Toumazou FRS, BSc PhD FIET FIEEE (46)
Distinguished for pioneering 'current mode' signal processing, using transistors in the weak inversion regime. His researches initiated the new direction for ultra-low power analogue processing and opened radically new possibilities in telecommunications and biomedicine. His enthusiasm for bringing inventions into practical usage has led him to form several companies, one of which is now in the public domain.

Ian Underwood BSc MSc PhD FRSE FInstP MIEEE MSID (55)
Distinguished as a researcher, academic, inventor, innovator, entrepreneur and inspiration to younger scientists and engineers. Following a successful research career primarily in liquid crystal and other optoelectronic devices and systems, he co-founded the spin-out company MicroEmissive Displays (MED) to commericalise his invention of the polymer organic light emitting diode micro display that has raised over £40million in investment and now employs more than 50 staff in Germany and the UK.

Nicholas Benedict Van Someren BA(Cantab) MA(Cantab) PhD(Cantab) FBCS CITP (41)
Co-founder and technical leader of world-leading cryptographic FTSE plc nCipher. Outstanding for versatile and wide-ranging hardware and software engineering addressing fundamental data security challenges arising from electronic till and internet data encryption key management. Distinguished for enduring myoelectric technology, enabling stroke and cerebral palsy patients to learn fine muscle control.

Christoph Stefan Wiesner EurIng Dr és Sci Tech DipMgmt CEng FIMMM FWeldI (45)
Distinguished for his work on crack arrest and crack approach methodologies in fracture mechanics and for his contributions to international standards/codes of defect acceptance in welded structures. An outstanding manager, he led TWI structural integrity businesses for six years and now as Director of Research and Technology has overall responsibility for TWI's research and consultancy business.

Tony Wilson BA(Oxon) MA(Oxon) DPhil(Oxon) FIET FInstP CEng CPhys CSci HonFRMS (53)
Distinguished for his seminal contributions to confocal microscopy, arguably one of the most significant advances in light microscopy in the last century. His work, which led to the marketing of the first commercial instrument, has also resulted in the introduction of two fundamentally new approaches to 3D imaging in microscopy.

INTERNATIONAL FELLOWS

Clarence Forbes Dewey BE (Yale) MS (Stanford) PhD (CalTech) FAIMBio FIEEE Biomed Eng Soc (73)
Distinguished American engineer, eminent in Biomedical Engineering. He has undertaken outstanding research in biological fluid mechanics, medical IT and optics. Dewey founded the Massachusetts Computer Corporation (now Concurrent, NASDAQ listed) and has been a consultant to international companies over many years.

Franz Josef Durst Dipl-Ing MSc PhD Dr-Ing Habil DSc(Eng) (67)
Distinguished for outstanding contributions over 35 years to the invention, development and insightful application of flow-instrumentation devices, especially those associated with the laser and phase Doppler anemometer. His vision and innovation has taken these instruments from delicate one-off laboratory devices to robust, versatile and highly accurate optical sensors capable of measuring the statistics of turbulent flows in hostile environments including those involving unsteadiness, multi-phases and combustion. Every major fluid-mechanics laboratory in the world has purchased derivatives of his inventions. His restless ambition to exploit new possibilities for his instrumentation is matched only by his remarkable skills both as a lecturer and author in explaining the operational principles.

Edward Greitzer AB SM PhD (Harvard) FAIAA FASME MNAE (67)
Distinguished for expertise in engineering fluid dynamics, especially aerodynamics of compressors, having contributed extensively to improvement in compressor and gas turbine performance through the understanding of their behaviour. He has also played a leading role in the dissemination of knowledge and understanding of fluid dynamics.

Jorg Imberger AM FAA FTSE FIWA FIE Aus FANI (Argentina) NAE (USA) FAGU (65)
Distinguished for establishing the foundations of Physical Limnology. Imberger has developed state-of-the-art engineering tools for the sustainable management of lakes, estuaries and coastal seas, with the objective of optimising the balance between water yield, flood control, hydropower, water quality, carbon cycling and human capital. In this field he has no peers.

Tridibesh Mukherjee BEMet MMet PhD FNAE HonMIIM INSDAG (65)
Has had an outstanding career as a metallurgist, manager and innovator in the steel industry. He has championed development projects and has been the driving force behind technological improvements and business acquisitions that have raised the status of Tata Steel to its current globally recognised position.

Jung Uck Seo FIET CEng FIEEE BS ME PhD HonDr (73)
Distinguished for being the major force in enabling Korea to lead the world in the introduction of CDMA cellular mobile phone technology. His many industrial, academic and Government posts have been at the highest possible level including that of the Minister of Science and Technology

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