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Presents

Glasgow City of Scientists

A story of innovation

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Presents: Glasgow City of Scientists
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Professor Muffy Calder

Sector:	Computer Science
Born:	1958, Quebec, Canada
Education:	BSc University of Stirling; PhD St Andrews
Job role:	Professor of Formal Methods in the School of Computing Science and Chief Scientific Adviser for Scotland
Place of work:	University of Glasgow and Scottish Government
Contribution to science and innovation:	Professor Calder's research is in mathematical modelling and automated reasoning for concurrent, communicating systems: model-checking, process algebras, probabilistic systems, protocols and telecommunications services, biochemical networks and cell signalling, safety-critical systems. She is currently collaborating on research with NATS (air traffic services).
Awards and fellowships:	Professor Calder was awarded an OBE in the New Year's Honours List, 2011 for services to computer science. She holds fellowships in the Royal Academy of Engineering, Royal Society of Edinburgh, and the British Computer Society. She currently holds a Royal Society Wolfson Research merit award. Professor Calder was listed as 21st most influential woman in Scotland, 2012, by The Herald.
Produced by:	Glasgow City of Science, August 2014
#ComputerScience #Science #Technology #Maths #Glasgow #CityOfScientists	
http://www.dcs.gla.ac.uk/~muffy/	
Validated by Professor Calder 19th August 2014	

Professor Anna Dominiczak

Sector:	Healthcare and life sciences
Born:	Poland
Education:	Medical School, Gdansk, Poland
Job role:	Regius Professor of Medicine, Vice Principal and Head of College of Medical, Veterinary and Life Sciences and an honorary consultant physician.
Place of work:	University of Glasgow and NHS Greater Glasgow and Clyde
Contribution to science and innovation:	Prof Dominiczak is one of the world's leading cardiovascular (heart and circulation) scientists and clinical academics. Her major research interests are in hypertension (high blood pressure), cardiovascular genomics (studying genes affecting the heart and circulation) and systems medicine (considering all aspects of biology on the body's function). Her research income in the last three years is more than £30 million. She has over300 publications and has been an editor of many top medical journals, including the Editor in Chief of Hypertension, the top journal in the world dealing with high blood pressure research.
Awards and fellowships:	In 2005 her services to medicine were recognised by the Queen who awarded her with an OBE and was voted Evening Times Scotswoman of the year in 2006. She is an elected Fellow of the Royal College of Physicians, the Academy of Medical Sciences, the Royal Society of Edinburgh, the American Heart Association and the European Society of Cardiology as well as a member of the Association of Physicians of Great Britain and Ireland, the European Society of Hypertension, American Physiological Society, Society of Endocrinology, British Hypertension Society and British Cardiovascular Society. She is a President of the European Society of Hypertension (Society that coordinates research and treatment of high blood pressure across the whole of Europe) and the first woman ever to hold this position.
Produced by:	Glasgow City of Science, August 2014
#Medicine #LifeSciences #Health #Glasgow #CityOfScientists	
Validated by Professor Dominiczak 26th August 2015	

Professor Sir Kenneth Calman

Sector:	Health and life sciences
Born:	1941, Glasgow
Education:	BSc, MB ChB, PhD, MD University of Glasgow
Job role:	Chairman; Chancellor
Place of work:	Glasgow City of Science; University of Glasgow
Contribution to science and innovation:	Sir Kenneth lectured in surgery, held the Cancer Research Chair of Medical Oncology and was Professor and Dean of Postgraduate Medical Education at the University of Glasgow. He was former Chief Medical Officer for Scotland and Chief Medical Officer for England. He authored the influential Calman-Hine Report which transformed the delivery of cancer service in the NHS, along with writing significant publications on cancer care, medical education, and the communication of risk. Sir Kenneth has served as Chairman of the Executive Board of the World Health Organisation and the European Environment and Health Committee.
Awards and fellowships:	Sir Kenneth is a Fellow of several academic and professional bodies including the Royal College of Physicians, the Royal College of Surgeons and the Royal Society of Edinburgh. In 1996 he became a Knight Commander of the Order of the Bath.
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http://www.glasgowcityofscience.com/about-us/meet-the-team	
Validated by Professor Sir Calman 19th August 2014	

Professor Bonnie Steves

Sector:	Science, Maths, Astronomy
Born:	1960, Canada
Education:	BSc, BA British Columbia, PhD University of Glasgow
Job role:	Professor of Astrodynamics and Director of the Graduate School
Place of work:	Glasgow Caledonian University
Contribution to science and innovation:	Professor Steves conducts research into celestial mechanics, solar system dynamics, and chaotic systems applied to planetary systems and stellar clusters. She has over 25 years of solving astronomy puzzles, from rediscovering the ancient Chaldean Saros eclipse predictor and its modern meaning to exploring the only analytical global solution to a finite mass four body problem named by us the Caledonian Problem. She has been Director of four International Advanced Study Institutes in Astrodynamics held across Europe, and is the co-editor of five graduate textbooks. She frequently give talks on astronomy in public outreach to school children/schools, Science Festivals and Astronomy societies
Awards and fellowships:	Professor Steves is a Fellow of the Royal Astronomical Society.
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#Science #Maths #Astronomy #Glasgow #CityOfScientists	
http://www.gcu.ac.uk/graduateschool/ourstaff/professorbonniesteves/	
Validated by Professor Steves 20th August 2014	

Professor Miles Padgett

Sector:	Physics, Optics
Born:	1963
Education:	BSc University of York, MSc University of St Andrews, PhD University of Cambridge
Job role:	Physics Professor Kelvin Chair Of Natural Philosophy
Place of work:	University Of Glasgow
Contribution to science and innovation:	Professor Padgett is recognised for his studies in the field of optics and in particular of optical angular momentum. His contributions include an optical spanner for spinning micron-sized cells, use of orbital angular momentum to increase the data capacity of communication systems and an angular form of the quantum Einstein-Podolsky-Rosen (EPR) paradox. His research group has published over 300 scientific papers that have received approx. 10,000 citations (references) in the world's leading scientific journals. He has made a number of TV and radio appearances and numerous public lectures, promoting science and technology to the widest possible audience. The energy carried by light is fundamental to life on our planet. But as well as energy, light beams carry a momentum. So if I shine a laser pointer at you, in addition to making you slightly hotter you'd feel a small force pushing you away. This force is roughly equal to the weight of a single biological cell. Although not much use for moving you, this force is used within microscopes to move single cells without touching them – a technique called optical tweezers. But light has other properties too. Beyond the energy and push of light my own team is interested in light's twist. In optical tweezers we use this twist to rotate microscopic objects. We can make and spin miniature wheels, forming microscopic machines both assembled and driven by light itself. Light's twist can also be used elsewhere. Light comprises millions and millions of individual photons, each of which can be encoded with information. The twist of light has been recognised for 100 years but until recently people thought that this was only

	clockwise or anti-clockwise – only suitable for transmitting 1s and 0s. However, in the last few years we've realised that the twist can be changed in size as well as direction. So each individual photon can now carry much more information. So not only does the push and twist of light manipulate microscopic objects – it also holds the key to new communication systems
Awards and fellowships:	Professor Padget has been recently become a Fellow of the Royal Society and previously a Fellow of the Royal Society of Edinburgh and has had a number of other awards such as Royal Society Research Fellowship, Royal Society, Leverhulme Trust Senior Research Fellowship, the Metrology Prize for World Class Manufacturing, the Optics and Photonics Division Prize from the Institute of Physics, a Young Medal and Prize from the Institute of Physics and recently the Kelvin Medal from the Royal Society of Edinburgh.
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http://www.gla.ac.uk/schools/physics/staff/milespadgett/	
Validated by Professor Padgett 20th August 2014	

Professor Martin Hendry

Sector:	Physics and Astronomy
Born:	1967, Glasgow UK
Education:	BSc, PhD University of Glasgow
Job role:	Professor of Gravitational Astrophysics and Cosmology and Head of School of Physics and Astronomy
Place of work:	University of Glasgow
Contribution to science and innovation:	Professor Hendry's main research interests are in gravitational-wave astronomy and cosmology. He is a member of the LIGO Scientific Collaboration: an international group of more than 900 scientists leading the efforts to detect the so-called "ripples in spacetime", predicted by Einstein and produced by some of the most violent events in the cosmos: exploding stars, colliding black holes, even the Big Bang itself. He is a passionate enthusiast for public engagement in science and was recently an invited speaker at TEDx Glasgow: http://www.tedxglasgow.com/tedxtalks/
Awards and fellowships:	Professor Hendry is Fellow of the Royal Society of Edinburgh, the Institute of Physics and the Royal Astronomical Society. He is a former Science in Society Fellow for the UK Science and Technology Facilities Council
Produced by:	Glasgow City of Science, August 2014
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Validated by Professor Hendry 23rd August 2014	

Susan Meikleham

Sector:	Education and skills development
Born:	1980, Kilmarnock
Education:	MSci University of Glasgow
Job role:	Science Education Co-ordinator
Place of work:	Glasgow Science Centre
Contribution to science and innovation:	Susan is currently championing careers in STEM (Science, Technology, Engineering and Maths) by managing careers events and developing an interactive exhibition to showcase the wealth of STEM job opportunities available to Scotland's young people. This exciting project is supported by Skills Development Scotland. After graduating in Molecular and Cellular Biology and working in the pharmaceutical industry, Susan has held various roles within Glasgow Science Centre from frontline delivery to development and management. In collaboration with partners such as Glasgow City of Science and the Scottish Universities, Susan has managed a series of innovative events bringing pupils together with scientists and engineers from industry and academia. Susan works closely with local education authorities, and the UK network of Science Centres to ensure that Glasgow Science Centre continues to support the Curriculum for Excellence and provides a hub for excellence in science communication.
Awards and fellowships:	
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www.glasgowsciencecentre.org	
Validated by Susan Meikleham 23rd August 2014	

Dr Robin Hoyle

Sector:	Education and Skills Development
Born:	1969, Duntocher
Education:	BSc, PhD University of Glasgow
Job role:	Director of Science
Place of work:	Glasgow Science Centre
Contribution to science and innovation:	Robin trained as a research chemist and as a post-doctoral researcher collaborated in a number of multi-disciplinary projects developing molecular devices and developing catalysts. He became involved in science communication activity and joined Glasgow Science Centre in 2001 as a science communicator delivering outreach programmes and national competitions that promoted science and technology to schools and the wider community. Robin became Director of Science in 2006.
Awards and fellowships:	Marie Curie Fellowship
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Validated by Dr Hoyle 23rd August 2014	

Professor David Cumming

Sector:	Engineering
Born:	1967
Education:	B.Eng. Glasgow University, Ph.D. Cambridge University
Job role:	Professor of Electronic Systems and Dean of Research for the College of Science and Engineering
Place of work:	University of Glasgow
Contribution to science and innovation:	Research into sensors for biomedical and imaging applications e.g. Ion sensors on micro-chips for genome sequencing. Filter technologies and sensors for imaging in the visible, infrared and terahertz region of the spectrum. Novel nanophotonic devices and structures made using nanofabrication.
Awards and fellowships:	Professor Cumming is a Fellow of the Royal Society of Edinburgh (FRSE) and a Fellow of the Institute of Institute of Electrical and Electronics Engineers (FIEEE) and has been awarded a Royal Society Wolfson Merit Award.
Produced by:	David Cumming 21 Aug 2014
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Validated by David Cumming 21 Aug 2014	

Professor Duncan Graham

Sector:	Chemistry, Healthcare, Nanotechnology
Born:	Berwick-Upon-Tweed, 1970
Education:	BSc. Hons, PhD, University of Edinburgh
Job role:	Director of the Centre for Molecular Nanometrology, Non-executive director Renishaw Diagnostics Ltd.
Place of work:	Department of Pure and Applied Chemistry, University of Strathclyde
Contribution to science and innovation:	Duncan's interests are in using synthetic chemistry to produce nanosensors that respond to a specific biological species or events as measured by spectroscopy and collaborating with scientists from different disciplines to exploit these approaches. He has developed new assays for detecting infectious diseases based on chemistry and nanotechnology and along with two other academics formed a new company (Renishaw Diagnostics Ltd) which is now producing these assays for improved healthcare. He is currently focussing on new approaches to cardiovascular disease and cancer diagnosis and therapy.
Awards and fellowships:	In 2004 Duncan was awarded the Royal Society of Chemistry's SAC Silver medal (top analytical chemist under 35 years) for the 'Innovative synthesis of new analytical reagents for sensitive and selective analysis' and in 2005 he was presented with the Nexxus Young Life Scientist of Year award. In 2007 he was elected to the fellowship of the Royal Society of Edinburgh (Scotland's National Academy) and was awarded the Corday Morgan prize (top under 40 years old chemist) of the Royal Society of Chemistry in 2009 for 'outstanding and pioneering contributions to nanometrology in support of molecular manipulation and chemical and biological systems'. He received a Royal Society Wolfson Merit Award in 2010 and in 2012 was awarded the Craver Award of the Coblentz Society 'in recognition of his pioneering work in surface enhanced Raman scattering (SERS) to generate ultra-sensitive and highly selective methods of detection for a range of analytes, especially bio-analytical targets'. He was also given a Fellows Award from the Society of Applied Spectroscopy in 2012.
Produced by:	Professor Duncan Graham, August 2014

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http://www.strath.ac.uk/chemistry/staff/academic/duncangraham/
Validated by Professor Duncan Graham, August 2014

Professor Paul Younger

Sector:	Engineering
Born:	1962
Education:	BSc Newcastle University, MS Oklahoma State University, PhD Newcastle University
Job role:	Ranking Chair of Engineering and Professor of Energy Engineering
Place of work:	University of Glasgow
Contribution to science and innovation:	Prof Younger is an engineer and applied geoscientist who has made major contributions worldwide to: development and protection of clean water supplies; the environmental management of the mining industry; and the establishment of new clean and renewable energy industries. He has co-founded five science-based companies in these sectors, and has been a frequent governmental advisor on contentious issues - most recently on shale gas and fracking. He is currently helping to develop geothermal energy resources for the benefit of some of the world's poorest communities, in Ethiopia and Kenya.
Awards and fellowships:	Paul Younger was a Harkness Fellow from 1984 to 1986. In 2005, his work on mine water pollution was recognised by the award of the Queen's Anniversary Prize for Higher Education. He was elected a Fellow of the Royal Academy of Engineering (the top professional honour for engineers in the UK) in 2007. He is also a Fellow of the Geological Society, the Institution of Civil Engineers, the Institution of Chemical Engineers and the North of England Institute of Mining Engineers (of which he is also a former President - it is the world's oldest institution of mining engineers). He is a Chartered Engineer, a Chartered Scientist and a Chartered Geologist. In 2009, Prof Younger was appointed by Her Majesty the Queen as a Deputy Lieutenant for Tyne and Wear in 2009. He was awarded honorary doctorates in 2010 from the Universities of Oviedo (Spain) and San Agustín (Peru) in 2010, in both cases for his work on combatting mine water pollution worldwide. In October 2011 he was awarded the Freedom of the Borough of Gateshead in recognition of using his science to benefit society and the environment.
Produced by:	Professor Paul Younger, August 2014

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Validated by Professor Paul Younger, August 2014

Dr Rachel Dance

Sector:	Physics
Born:	Reading, Berkshire, England – 1985
Education:	MPhys (Hons), PhD University of York
Job role:	Post Doctoral Research Assistant
Place of work:	SILIS, University of Strathclyde
Contribution to science and innovation:	Recently completed PhD in the physics department at York university (before moving to Strathclyde March 2014) in studying laser driven fusion regimes – specifically the study of a beam of electrons generated by an ultra-intense laser, energetic enough to ignite hydrogenic fusion fuel. These electron beams can also be used to generate bright sources of x-rays and energetic particles for applications ranging from study of astrophysics to that of medical imaging and cancer therapy.
Awards and fellowships:	Awarded a prize for experiment
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Professor Jill Pell

Sector:	Public Health
Born:	1964, Durham, UK
Education:	MBChB; MSc; MD University of Edinburgh
Job role:	Henry Mechan Professor of Public Health & Director of the Institute of Health and Wellbeing
Place of work:	University of Glasgow
Contribution to science and innovation:	Jill Pell's main research interests are in chronic diseases, especially cardiovascular disease, and tobacco control. She was part of a collaboration of researchers that evaluated the impact of the Scottish legislation prohibiting smoking in public places. Her work by voted, by the American Heart Association and American Stroke Association, to be the most important research advance of 2008 http://www.americanheart.org/downloadable/heart/1237914748043Top10ResearchAdvances-08-1page.pdf
Awards and fellowships:	Fellow of the Royal Society of Edinburgh, Fellow of the European Society of Cardiology, Fellow of the Faculty of Public Health
Produced by:	Professor Jill Pell, August 2014
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http://www.gla.ac.uk/researchinstitutes/healthwellbeing/staff/jillpell/	
Validated by Professor Jill Pell, August 2014	

Professor Pamela Gillies CBE

Sector:	Health and life sciences, Education and skills development
Born:	1953, Scotland
Education:	BSc, PGCE, MEd University of Aberdeen, MMedSci, PhD University of Nottingham
Job role:	Principal and Vice-Chancellor
Place of work:	Glasgow Caledonian University
Contribution to science and innovation:	Professor Gillies has researched and written widely on cross-cultural perspectives on HIV/AIDS, sexuality and health, partnership responses to health improvement and community development responses to inequalities in health focusing on the potential of social action for health. She is a founding patron of a school for children of sex workers in Domjur, Kolkata, India.
Awards and fellowships:	Professor Gillies was awarded the honour of CBE for services to education and public health in December 2012. She was elected a Fellow of the Faculty of Public Health of the Royal College of Physicians of London in 2002; a Fellow of the Academy for Social Sciences in 2005 and became an Honorary Fellow of the Royal College of Physicians of Glasgow in 2007.
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Validated by Professor Gilles 1st Sept 2014	

Professor Julien Steven Baker

Sector:	Applied Physiology
Born:	1955 South Wales
Education:	BA (Wales) MSc (Loughborough) PhD (University of Glamorgan), DSc (University of the West of Scotland)
Job role:	Director of Research, Institute of Clinical Exercise and Health Science
Place of work:	University of the West of Scotland
Contribution to science and innovation:	Oxidative Stress, Immune Function, Muscle Damage, Hormonal control of exercise
Awards and fellowships:	Professor Baker is a Fellow of the Royal Society of Medicine FRSM, the Institute of Biology FIBiol, the Human Biology Association FHBA, the Institute of Clinical Research FICR. He is also a Chartered Biologist CBiol and a Chartered Scientist CSci
Produced by:	Professor Julien Baker, August 2014
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http://www.uws.ac.uk/staff-profiles/science/julien-baker/	
Validated by Professor Julien Baker, August 2014	

Professor Tessa Holyoake

Sector:	Healthcare and life sciences
Born:	Aberdeen 1963
Education:	University of Glasgow medicine
Job role:	Director of the Paul O'Gorman leukaemia Research Centre, University of Glasgow and honorary consultant haematologist
Place of work:	University of Glasgow and NHS Greater Glasgow and Clyde Glasgow
Contribution to science and innovation:	Prof Holyoake is an international expert in the investigation and management of chronic myeloid leukaemia. Her major research interests are in cancer stem cell biology, systems biology as applied to primary human leukaemic and normal stem cells and to developing novel therapeutic approaches for patients with leukaemia. Her research portfolio includes major charities, research councils and industrial collaborations. She has published extensively in top haematology and cancer journals, including Cancer Cell, Blood, Leukemia, JCI and JNCI.
Awards and fellowships:	Professor Holyoake was elected Fellow of the Royal Society of Edinburgh in 2007 and the Academy of Medical Sciences in 2013. She is a Fellow of the Royal College of Physicians, the Royal College of Pathologists as well as a member of the Association of Physicians of Great Britain and Ireland, the European Hematology Association, the American Society of Hematology and the International Chronic Myeloid Leukaemia Foundation. She was awarded the Scottish Health Award 2009 and the Lord Provost's Health Medal prize in Cancer 2010.
Produced by:	Professor Tessa Holyoake, August 2014
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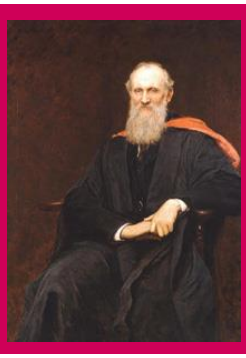
http://www.gla.ac.uk/researchinstitutes/cancersciences/staff/tessaholyoake/	
Validated by Professor Tessa Holyoake, August 2014	

William Thomson, Lord Kelvin



Sector:	Physics
Born:	1824, Belfast
Education:	University of Glasgow in 1834 at the age of 10
Job role:	Professor of Natural Philosophy (Physics), a post he held for 53 years.
Place of work:	University of Glasgow
Contribution to science and innovation:	Lord Kelvin created the first physics laboratory in Britain. He was a pioneer in many different fields, particularly electromagnetism and thermodynamics. Working with Faraday he developed the concept of an electromagnetic field. In thermodynamics one of the most important results of his work was his idea of an absolute zero of temperature - the Kelvin Scale. He also calculated the age of the earth from its cooling rate. He developed a mariners' compass and invented a tide machine and depth-measuring equipment and invented many electrical instruments. His house in Glasgow was the first to be lit by electric light.
Awards and fellowships:	Kelvin was employed as a scientific adviser in the laying of the Atlantic telegraph cables in 1857-1858 and 1865-1866, for which he was knighted. In 1892 he was made a Lord, Baron Kelvin of Largs (the river Kelvin flows near Glasgow University). He was president of the Royal Society from 1890 to 1895. Such is his standing in the scientific community, he was buried next to Sir Isaac Newton in Westminster Abbey.
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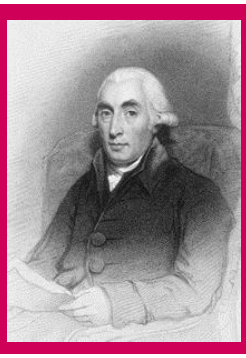
Joseph Black



Sector:	Chemistry
Born:	1728, Bordeaux, France
Education:	Belfast
Job role:	Professor of Anatomy & Botany, Lecturer of Chemistry, and Regius Professor of the practice of medicine
Place of work:	University of Glasgow
Contribution to science and innovation:	Black taught both chemistry and medicine in the eighteenth century. Black's investigations clarified the distinction between temperature and heat that resulted in the theory of latent heat and the first steps in calorimetry. He also introduced a modern understanding of gases, discovering carbon dioxide which he called 'fixed air' and illustrating that it did not support either flame or animal life and was produced by animal respiration and microbial fermentation.
Awards and fellowships:	Fellow of the Royal Society of Edinburgh. The Chemistry buildings at Glasgow and Edinburgh Universities are named after him.
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#Science #Anatomy #Botany #LifeSciences #Glasgow #CityOfScientists	
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Professor Maggie Cusack

Sector:	Earth Sciences
Born:	1963, Glasgow
Education:	BSc University of Glasgow; PhD University of Liverpool
Job role:	Professor of Biomineralisation; Head of School for Geographical and Earth Sciences.
Place of work:	University of Glasgow
Contribution to science and innovation:	Professor Cusack's research is at the forefront of investigating the effects of ocean acidification (OA) on marine organisms. Her drive is the understanding of biomineralisation – the intricacies of how biology can construct such a diversity of structures from the simplest of starting materials and how OA may affect biomineralisation. Maggie is a pioneer in the use of electron backscatter diffraction to understand biological control of mineral formation. Her work includes accurately retrieving past climate information from shells of various species of marine invertebrates.
Awards and fellowships:	Professor Cusack is a Fellow of the Royal Society of Edinburgh and was the first woman to be awarded the prestigious Saltire award for her work in Earth Sciences.
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Miss Joanne Foo

Sector:	Photography and Education
Born:	1982, Glasgow
Education:	BSc Hons Zoology (Animal Ecology), University of Aberdeen
Job role:	Freelance Photographer and Conservation Science Educator
Place of work:	Jo Foo Trading (Mei Photography) – Sole Trader
Contribution to science and innovation:	Jo Foo is a zoologist and science communicator with over 9 years experience in science education and a passion for animal conservation and behaviour. She completed her degree in Zoology and Animal Ecology at the University of Aberdeen in 2003 and then travelled to USA to work with wolves, coyotes, foxes and bison at Wolf Park, Indiana. On returning to Scotland she started work at Glasgow Science Centre, developing and delivering engaging, interactive science education programmes for people of all ages. She also managed one of Europe's finest planetariums and delivered the UK's largest science centre programme for the International Year of Astronomy 2009. In 2013 she was awarded a Winston Churchill Memorial Trust Travelling Fellowship and travelled throughout North America to meet and interview wolf conservation experts and stakeholders in large predator conservation. She now combines these skills to in her passion for wildlife photography using exciting images to engage people with conservation.
Awards and fellowships:	Winston Churchill Travelling Fellow 2013
Produced by:	Joanne Foo, November 2014
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http://wildlifebyjo.wordpress.com and https://www.facebook.com/meiphotography	
Validated by Joanne Foo, November 2014	

Professor Lynne Baillie

Sector:	Mobile Computing
Born:	Edinburgh
Education:	PhD and MSc Computing
Job role:	Professor of Interactive Technologies
Place of work:	Glasgow Caledonian University
Contribution to science and innovation:	Prof Baillie is the Director of the Interactive and Trustworthy Technologies Research Group at Glasgow Caledonian University. She was a Senior Researcher at the Telecommunications Research Centre, Vienna, Austria. She has been involved in the user-centered design of home and mobile technologies for over ten years, working with several major companies and has just completed an award winning 4 year £1.5m UK research council grant on home mobile rehabilitation for older adults. Her groups work on sensor authentication on Smartphones was recently written about by the BBC's technology expert and published on the BBC News website: http://www.bbc.co.uk/news/technology-28034539
Awards and fellowships:	Translating Research Award: the Envisage Project to Rowe, MacDonald & Baillie from the UK Research Councils. The project was praised for its clinical utility and value to older adults, its innovative concepts and its impact in the field of health and wellbeing. EU Marie Curie Research Fellowship
Produced by:	Professor Lynne Baillie, November 2014
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http://www.ittgroup.org	
Validated by Professor Lynne Baillie, November 2014	

Professor Mandy MacLean

Sector:	Health and Life Sciences
Born:	1958, Edinburgh, Scotland
Education:	BSc University of Edinburgh (1st Class); PhD University of Edinburgh
Job role:	Professor of Pulmonary Pharmacology and previously Dean of Graduate Studies
Place of work:	University of Glasgow
Contribution to science and innovation:	Professor MacLean's research focuses on why women get more cardiovascular disease than men, especially the disease pulmonary hypertension which is rare but a killer. It is caused by the blood vessels in the lung thickening and eventually dying off meaning the oxygen in the breath cannot get into the blood. She is an international expert on the effects of serotonin on the lung.
Awards and fellowships:	Awards include an MBE in the 2010 Queen's New Years honours list for her career and public engagement activities (especially for running Glasgow's Cafe Scientifique) and a Royal Society Wolfson Research Merit Award in 2010. She won the 2008 Grover award from the American Thoracic Society for her research. She was Vice President (Meetings) of the British Pharmacological Society from 2007-2009. In 2013 she was elected as a Fellow of The Royal Society of Edinburgh (FRSE), awarded the British Pharmacological Society AstraZeneca Prize for Women in Pharmacology and a Royal Society Leverhulme Trust Senior research Fellowship. She brought up two children as a single mother.
Produced by:	Professor Mandy MacLean, November 2014
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Validated by Professor Mandy MacLean, November 2014	

Professor Stephen Wilson

Sector:	Applied Mathematics
Born:	1965, Yorkshire
Education:	Oxford University (BA, MA, MSc and DPhil)
Job role:	Professor of Applied Mathematics
Place of work:	University of Strathclyde
Contribution to science and innovation:	I am interesting in using mathematics to understand a wide range of real world problems, especially in fluid mechanics. Current projects include understanding the dynamics of evaporating droplets, using electric fields to manipulate fluids, understanding the anomalous surface tension behaviour of certain fluids, and investigating the flow of fluid rivulets.
Awards and fellowships:	Fellow of the Institute of Mathematics and its Applications (IMA). Joint Editor-in-Chief of the Journal of Engineering Mathematics. Jointly awarded Institute of Physics (IoP) Printing and Graphics Science Group Prize for "A fundamental study of droplet evaporation" in 2009.
Produced by:	Professor Stephen Wilson, November 2014
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http://www.strath.ac.uk/mathstat/staff/professorstephenwilson/	
Validated by Professor Stephen Wilson, November 2014	

Dr Tony Mulholland

Sector:	Mathematics
Born:	1966, Uddingston
Education:	BSc (University of Glasgow), MSc (University of Strathclyde), Phd (Glasgow Caledonian University)
Job role:	Reader in Mathematics
Place of work:	Department of Mathematics and Statistics, University of Strathclyde
Contribution to science and innovation:	Dr Mulholland has published over 100 papers in applied mathematics, particularly in the modelling of ultrasonic devices and systems. His research is characterised by his engagement with industry partners such as the National Nuclear Laboratory, Rolls-Royce, Serco Assurance, Shell, Weidlinger Associates, BP, GSK, Astra Zeneca and Doosan Power Systems. He leads the mathematical modelling developments in the Centre for Ultrasonic Engineering (CUE) at Strathclyde University (www.cue.ac.uk). His work helps to ensure the safe operation of critical structures such as nuclear plants, aircraft, and oil pipelines. He has designed and produced the world's first fractal ultrasonic transducer. When he appeared on the BBC programme Coast his expertise on the mathematics of fractals helped him to explain the difficulties in measuring the length of the British coastline.
Awards and fellowships:	Fellow of the Institute of Mathematics and its Applications
Produced by:	Dr Tony Mulholland, November 2014
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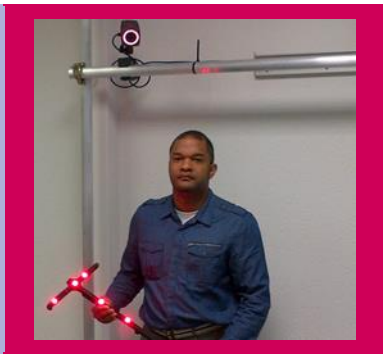
www.strath.ac.uk/mathstat/staff/drtonymulholland/	
Validated by Dr Tony Mulholland, November 2014	

Dr Ukadike Chris Ugbolue



Sector:	Engineering / Health and Life Sciences
Born:	1975, London
Education:	BEng (Middlesex University), PhD (University of Strathclyde)
Job role:	Lecturer / Bioengineer
Place of work:	University of the West of Scotland
Contribution to science and innovation:	As a bioengineer I have designed and built rehabilitation devices such as a wrist alignment device which can be used as a posture corrective device. This has applications within the clinical environment and as a training aid for sports enthusiasts. I have also developed a low cost knee dynamometer as well as developed kit for assessing gait. Research in the areas of biomechanics and human motion analysis are also an interest of mine.
Awards and fellowships:	Chartered Engineer (CEng) and Member of the Institution of Mechanical Engineers
Produced by:	*Dr Ugbolue*, September 2014
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Validated by Dr Ugbolue September 18, 2014	