Foreword

The University of Nottingham is dedicated to research excellence. World-leading achievements in many fields define us as a world-class university, and this success can only be achieved by attracting, recruiting and retaining staff and students of the highest standard. To achieve first-class knowledge discovery our research culture must encourage, support and recognise talent in an environment that is committed to equality of opportunity.

The University’s equality and diversity policy has been developed to ensure best employment practice. However, we also recognise the need to support women at key career transition points. We have therefore established strategic initiatives designed to assist women seeking their first post-doctoral appointment, as well as for those moving into more senior academic roles. We are delighted by the success of our Anne McLaren Fellowships which enable talented women to establish an independent career in Science, Technology, Engineering and Medicine (STEM).

Maintaining balance between career development and life outside academia is particularly important for women working within STEM. Our policy outlines a series of directed initiatives designed to address work-life balance issues.

We are establishing a framework for the support of women throughout their career progression in STEM at the University. The action plan, developed in consultation with the University’s Women in Science, Engineering and Technology Group (WinSET) is already being implemented.

The University of Nottingham is fully committed to supporting, nurturing and celebrating women in STEM. We are delighted to be able to celebrate the achievements of our talented women staff and students.

Professor Karen Cox
Pro-Vice-Chancellor for Staffing and Community
Introduction to WinSET

Women have always been interested in Science, Engineering, Technology and Medicine (STEM). One of the first recorded women scientists was an Ancient Egyptian, Merit PtaH (2700BC) who had an interest in medicine. However, through the ages the opportunity to contribute to knowledge in these areas was limited to those fortunate few who had access to education. Even then, Science and Engineering were considered to be amateur pursuits only open to the financially secure.

Throughout the last few centuries access to education for women has meant that opportunities to study and contribute to these important subjects has increased. To realise the full potential of this trend there is a need to encourage, support and celebrate Women in Science, Engineering, Technology and Medicine. The University of Nottingham is committed to this vision and in 2005, under the guidance of Professor Anne Willis (School of Pharmacy) established WinSET, a committee dedicated to Women in Science Engineering and Technology. This committee is dedicated to the principles set out in the Athena SWAN Charter which aim to ensure that equality of opportunity, representation and recognition is afforded to women in STEM.

In 2006, the University proudly received the Athena SWAN bronze award which was renewed in 2009. In 2008, Professor Katherine Smart (School of Biosciences) was appointed Chair of WinSET. Silver Athena SWAN awards were awarded to the Schools of Psychology (2008), Mechanical, Materials and Manufacturing Engineering (2008), Biosciences (2009), Pharmacy (2009) and Physics and Astronomy (2010). In five years the University of Nottingham has progressed the vision of the Athena SWAN charter across its faculties of Science and Engineering. The University is fully committed to the encouragement, support and celebration of women in STEM. Each School in STEM was asked to nominate individual women whose contribution to STEM has been outstanding in 2010. The University is proud to celebrate the achievements of these women.

Professor Katherine Smart
Chair of WinSET
University of Nottingham
www.nottingham.ac.uk/winset

Speaker Profile

Dr. Julie Greensmith is a Lecturer in the School of Computer Science at The University of Nottingham. Julie is part of the Intelligent Modelling and Analysis Group and an associate of the Mixed Reality Lab. She is currently researching the development of an immune inspired algorithm, the Dendritic Cell Algorithm, and the application of intelligent methods and data mining to ‘thrill & fear’ discrimination. This means she gets to ride a lot of rollercoasters, all in the name of research! Her work with Artificial Immune Systems involves both abstract modelling of the immune system for the purpose of constructing novel algorithms and modelling of the immune system to figure out how select mechanisms actually function. In particular Julie is interested in the Danger Theory and the function of the innate immune systems, in particular Dendritic Cells. Her newest, and less conventional, research entails the study of emotional responses of people on rollercoasters. This research is in conjunction with the Horizon initiative and Thrill Laboratory, where participants are monitored using wearable biosensing kits, cameras and microphones. Julie's role is to mine this data and to conduct experiments to see if what thrills people or what scares them can be formulated. This ties in nicely with her life-long passion for riding rollercoasters and other extreme rides. Strange? You bet! Fun? Oh yes! Hard work? Definitely!

“The University of Nottingham supported me immensely in the pursuit of my dream of becoming a lecturer through awarding me the Anne McLaren Fellowship in 2008, aimed at supporting the research of ambitious postdoctoral women in science - without which I would not be in the fantastic position I find myself today!”

Dr Julie Greensmith

Professor Katherine Smart
Chair of WinSET
Speaker Profile

**Biography:** After obtaining his BA from Cambridge and PhD here at Nottingham, Richard Bowtell is now a Professor of Physics. He became Head of the School of Physics & Astronomy at The University of Nottingham in August 2008 and currently lectures first year students on the Frontiers in Physics module. Areas of expertise include Magnetic resonance imaging (MRI), particularly functional brain imaging using fMRI (fMRI); NMR microscopy, coil design for MRI, magnetic fields and their interaction with the human body. Richard was the Head of the Self-Assessment team that was successfully awarded Athena Silver SWAN status for the School of Physics and Astronomy in 2010.

**Research interests:** Richard’s research involves the development of new techniques and hardware for magnetic resonance imaging and their application in the biomedical sciences. This includes the design of improved gradient and shim coils for use in the next generation of magnetic resonance scanners and the generation of improved contrast for studies of the anatomy and function of the human brain. His current work is focused on realising the advantages of ultra-high (7 T) magnetic field for human imaging studies and the combination of other imaging modalities, such as electroencephalography (EEG), with magnetic resonance imaging.

Professor Richard Bowtell

BA PhD

Head of Physics and Astronomy

Women in Science, Engineering & Technology at The University of Nottingham

**Dr Jillian Baker**  
School of Biomedical Sciences

**Biography:** After obtaining her medical degree and 4 years clinical experience, Jill was awarded a Wellcome Trust Clinical Training Fellowship to undertake a PhD at the University of Nottingham (2001-2004) under the supervision of Profs SJ Hill and IP Hall. During this time she investigated the molecular pharmacology of the human β1 and β2-adrenoceptors. This included some work looking into the two conformations of the β1-adrenoceptor, the divergent pathways in intracellular signalling from the β2-adrenoceptor, careful examination of antagonist affinity measurements and the relationship between receptor occupancy and CRE-gene transcription.

**Research interests:** She now works part-time as a clinical Registrar in Respiratory Medicine at Queen’s Medical Centre Nottingham and part-time in her Laboratory. During her Clinician Scientist Fellowship, Jill has found two conformations of the human β3-adrenoceptor and undertaken further studies into the two conformations of the human β1-adrenoceptor with a mutagenesis study. Studies examining the pharmacology of the human adenosine A1 and histamine H2 and H3 receptors have shown that the unexpected findings at the human β-adrenoceptors cannot be generalised to all GPCRs. More recently, Jill has looked at the pharmacology of the turkey β-adrenoceptors (including the recently crystallised receptor) to gain more understanding about why some receptors appear to have two conformations. Finally, Jill has recently looked into agonism and determined that it is possible to develop ligands that are selective for one receptor subtype over another though selective efficacy and not just selective affinity.

“As a clinician I see and use drugs that have side effects or that are not effective enough. As a laboratory scientist I aim to understand in detail how these drugs work in order to design new or better drugs that help me to treat my patients better in the long-term.”

**Dr Elena Bichoutskaia**  
MSc PhD MRSC  
School of Chemistry

**Biography:** Elena Bichoutskaia studied at St. Petersburg State University where she graduated with a MSc degree in Physics in 1993, and obtained her PhD in Physics and Mathematics in 2000. As an undergraduate student, Elena invented a new gas-discharge lighting system and received a patent for invention used in a number of colour-dynamic devices and advertising displays. In 1999, the World Intellectual Property Organization (WIPO) had a year-long exhibition in Geneva devoted to women inventors of five continents where Elena’s academic experience and practical significance of the invention were showcased.

**Research interests:** Dr. Bichoutskaia is a computational materials chemist working on the development of multi-scale modelling approaches to a range of problems in physical and materials science. She exploits analytical theories, which reduce complex behaviour of molecules and solids into clear and insightful relationships between the cause and effect. Elena’s postgraduate research focused on the spectroscopy of optical transitions in slowly colliding atoms.
**Dr Helen Budge**  
MA BM BCh PhD MRCP FRCPC  
School of Clinical Sciences  

**Biography:** Helen Budge graduated from the University of Oxford in Physiological Sciences in 1988 and from the University of Oxford Medical School in 1991. She undertook her clinical training in Paediatrics and Neonatology in Nottingham and Oxford before being appointed as Clinical Lecturer in Neonatal Medicine at the University of Nottingham in 1998. She was awarded her PhD on the influences of maternal under nutrition on foetal and neonatal physiology in 2003. She was appointed as Clinical Associate Professor in 2004 and as Reader in Neonatology in 2010. Helen is Co-Director of the University of Nottingham’s Early Life Nutrition Research Unit which she established with Professor Symonds.  

**Research interests:** As a clinical academic, Helen undertakes clinical work as Honorary Consultant in Neonatal Intensive Care as part of the Nottingham Neonatal Service, providing and leading clinical care for extremely preterm infants. She chairs the Neonatal Nutrition Team. Her research interests include the long-term effects on the developing individual, focussing particularly on the effects of early nutrition on development and physiology. Her work has explored the mechanisms by which nutrition during development before, and soon after, birth can lead onto long-term ill health.

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**Dr Rachel L Gomes**  
Department of Chemical and Environmental Engineering  

**Biography:** Dr Rachel Gomes graduated with a BSc (Hons) Natural Sciences specialising in Chemistry from Brunel University and was the Institute of Physical and Environmental Sciences’ nominee for the Margaret Trier Memorial Prize, presented annually to the ‘best woman’ graduating with a first degree. She obtained one year research funding and a scholarship from LGC and Brunel University to continue her BSc final year project investigating the novel applications of chromatography for determining steroids and other biologically active chemicals of relevance to water treatment and concurrently undertook a MSc in Environmental Science with Legislation and Management. A move to Imperial College London followed where Rachel received an EPSRC scholarship to continue her research using chemistry and environmental engineering to investigate biologically active chemicals in water treatment. This led to the award of a PhD in 2006 for the determination, behaviour and fate of steroid estrogens and their conjugates in the wastewater treatment process and receiving waters.  

**Research interests:** Thereafter, Rachel took on the role of Scientific Project Manager to an international 22-partner €11M EU-funded project exploring novel endpoints of biologically active chemicals in humans and aquatic wildlife based at the London School of Pharmacy and then returned to Imperial College London where she received the Wellcome Trust Value in People Award to investigate carbon isotope ratio measurement of steroids for endocrine studies and drugs of abuse. Rachel contributes to the teaching in the Department of Chemical and Environmental Engineering delivering undergraduate and MSc modules in Waste and Wastewater Treatment and Water Treatment Engineering and is currently working towards the Chartered Chemist Professional Qualification.
Dr Kim R. Hardie

School of Molecular Medical Sciences

Biography: Following completion of a BSc (Hons) in Biological Sciences at Leicester University in 1987, Kim Hardie obtained a PhD from the University of Cambridge. After a postdoctoral position studying the uptake of iron by the causative agent of meningitis, Haemophilus influenzae, at the University of Nottingham, an international post doctoral research career commenced in 1992. In 2005 Kim transferred to the School of Molecular Medical Sciences, and was promoted to Associate Professor.

Research interests: Study of bacterial toxin secretion mechanisms conducted in the University of Victoria (BC, Canada) and Institute Pasteur (Paris, France) paved the way to the award of prestigious fellowships from the Federation of Biochemical Society and the European Molecular Biology Laboratory. In 1996, Kim returned to the University of Nottingham, UK, to investigate the mechanism of bacterial cell-cell communication with the internationally renowned leader in the field, Prof Paul Williams. The simultaneous award of a fellowship to set up an independent research group from the British Society for Antimicrobial Chemotherapy and a lectureship within the School of Pharmacy (1998), enabled Kim to merge her expertise in protein secretion and gene regulation and apply it to understanding how the stomach pathogen Helicobacter pylori, causes disease. A fellowship from the Centre National de la Recherche, funded a sabbatical in Marseilles (France), enabling Kim to develop research centred around understanding more about the secretion of proteins from the bacterium Pseudomonas aeruginosa, which is the leading cause of morbidity for Cystic Fibrosis sufferers, and has recently obtained ‘Superbug’ status. Her research interests in microbial protein secretion, cell-cell communication and metabolism have recently branched out into two new exciting directions. Firstly, a new model in which to study bacterial wound infections within tissue engineered human skin, and secondly a cross-disciplinary knowledge transfer project that has generated (with school children) a novel toy that helps children learn how to wash their hands well. This Glo-yo attracted the attention of the media, and the benefit will be a decrease in the spread of infections.

Dr Catherine Jopling

School of Pharmacy

Biography: Dr Jopling graduated from the University of Bristol in 1996 with a BSc in Biochemistry. She carried out her PhD research in the Department of Biochemistry at the University of Leicester, studying the role of internal ribosome entry sites in translation initiation in myc family genes. Dr Jopling was awarded a Wellcome Trust International Prize Fellowship to pursue postdoctoral research in Peter Sarnow’s laboratory at Stanford University, USA, from 2002-5. Her research focused on microRNAs, a recently discovered class of genes with regulatory functions, and led to the identification of an interaction between a liver-specific microRNA and hepatitis C virus (HCV) RNA that is required for HCV replication. Her Wellcome Trust fellowship allowed her to return to the UK and continue this research in Richard Jackson’s group at the University of Cambridge from 2005-7. In 2007 she moved to the RNA Biology Group in the School of Pharmacy at the University of Nottingham.

Research interests: MicroRNAs (miRNAs) are short non-coding RNA molecules that are expressed by a broad range of eukaryotic species and play an important role in the regulation of gene expression. In mammals, miRNAs show developmental stage and tissue-specific expression. They function predominantly by binding with imperfect complementarity to sites in the 3’ untranslated region (UTR) of miRNAs and repressing expression of the corresponding protein. miR-122 is a highly liver-specific miRNA that is necessary for the hepatitis C virus (HCV) life cycle in cultured liver cells. miR-122 achieves this function by binding to two adjacent sites in the 5’UTR of HCV RNA, and positively regulating both viral translation and a second, unidentified stage in the replicative cycle. The mechanism behind this unusual form of miRNA activity is being investigated by analysis of the miR-122 binding site requirements and the protein factors involved in this regulation. These will be compared to the requirements for miR-122 to repress gene expression by binding to sites in a 3’ UTR. This will allow us to determine what distinguishes different modes of miRNA action, and to obtain an insight into the requirements for miRNA activity in general. This will have important clinical applications. Novel therapeutics based on the inactivation of miR-122 have proved successful in replacing HCV load in animal models, and are currently being taken into human clinical trials by two companies.

“...”

Professor Denise Kendrick

BM D DCH DRCOG M FPH D M M Sc

School of Chemistry

Biography: Denise Kendrick is joint head of the Division of Primary Care, Professor of Primary care Research and a practising GP at the Newthorpe Medical Centre in Eastwood, Nottingham. Denise completed a Bachelor of Medicine with distinction in bio-medicai sciences at the University of Southampton in 1984 and a Doctor of Medicine at the University of Nottingham in 1998. In 2004, she received a Masters in Medical Statistics with distinction from Leicester University.

Research interests: Denise’s main research interest is preventing unintentional injuries. She leads the Injury Prevention and Epidemiology Research Group based in the Division of Primary Care in the School of Community Health Sciences. Her research focuses on injury epidemiology and prevention, but also on the use of randomised controlled trials and systematic reviews to evaluate primary care interventions. Findings from her injury research have informed the Department of Health’s Accidental Injury Task Force report, the European Child Safety Alliance Good Practice Guide, the World Health Organisation report on Child Injury Prevention and the upcoming National Institute of Health and Clinical Excellence’s Public Health Guidance on Strategies to Prevent Unintentional Injury in Children and Young People aged under 15.

“The University provided me with fantastic support when I was awarded my Public Health Career Scientist Award. They provided me with researcher time to complete the programme of research and extended my part-time contract to full time. It was clear to me that other universities were not being as supportive to similar award holders.”
Dr Julia Kydd
School of Veterinary Science

Biography: Born and educated in Dundee, Julia’s BSc (Hons) in Zoology from Dundee University led to an MSc in Equine Studies from Aberystwyth University in 1980. As part of this Masters, she undertook a summer project in the laboratory of Professor W.R. (Twink) Allen at the Equine Fertility Unit in Cambridge, working on the effects of a synthetic, oral progestagen (Regumate) on gonadotrophins in the mare.

Research interests: At the end of this project, she accepted a job as a Research Assistant in the same lab and spent the next few years doing embryo transfer for two purposes: firstly to study the mare’s immune response to pregnancy and secondly to determine the feasibility of the horse as a surrogate mother to increase the reproductive rate of endangered exotic equids, such as zebras and Przewalski horses. This research stimulated her interest in immunology sufficiently to want to undertake a PhD and this thesis entitled “Maternal immune responses to pregnancy in the mare” was completed successfully, graduating from Girton College, Cambridge University in 1989. Thereafter, an enjoyable 15 years was spent as a post-doctoral scientist at the Animal Health Trust in Newmarket studying the equine immune response to an equine herpes virus which causes respiratory and neurological disease and abortion in pregnant mares. In collaboration with colleagues in the USA and at the Institute for Animal Health, Compton, the work focussed on the cellular immune response to this virus, especially cytotoxic T lymphocytes, their target proteins and the genetic restriction molecules, with funding from the Horserace Betting Levy Board. In September 2006, Julia joined the School of Veterinary Medicine and Science, just before the first intake of 100 undergraduate students. Her current role involves acting as one of the School’s Senior Tutors, lecturing in applied immunology and teaching horse handling skills. The first cohort of Nottingham vets graduate in 2012. In the meantime, Julia’s research interests continue to involve the role of cytotoxic T lymphocytes in protection against equine viral disease, the influence of genetics on the immune response and the survival of the foetal allograft.

“Nottingham Vet School provides a friendly, enthusiastic ‘can do’ ethos amongst staff and students, with state of the art laboratory facilities and equipment.”

Dr Yuen Ling NG
BEng (Hons.) PhD
Department of Chemical & Environmental Engineering

Biography: Yuen was conferred the Bachelor degree in Engineering (Chemical Engineering) with First Honours by the Queen’s University of Belfast in 2000. After obtaining her first degree, Yuen joined the Environmental Technological Institute in New Zealand as an Assistant Scientist. The research institute was later renamed the Institute of Environmental Science and Engineering (IESE) and Yuen was reappointed as Associate Scientist. During her time in IESE, Yuen had the opportunity to work with other scientists in the area of environmental science and engineering. Her job responsibility included drafting research proposals; performing literature survey; designing and setting up experimental test rigs and analytical methods; performing experiments; collecting and analysing experimental data; drafting papers and posters for publication and presentation at conferences. Besides doing research, she has also participated in industrial services as a team member and has assisted in the teaching of university undergraduate students in their six-month internship programmes. A few papers were published from the work in IESE. Yuen then did her postgraduate studies after three years in IESE and was conferred the degree of Ph.D. in 2007. Yuen returned to Singapore to join the Singapore Polytechnic as a Lecturer after her PhD studies. She was with the polytechnic for about two and a half years. Her job responsibilities included giving lectures, tutorial, practical classes; supervising final-year projects; performing administrative work and participating in ad hoc work groups. She has taught in Chemical Process Principles, Chemical Engineering Principles, Mass Transfer and Bioanalytics with a contact time of about 20 to 23 hours per week. Yuen was one of the first batch of lecturers involved in the setting up of a new Bachelor degree programme in Food Technology, in partnership with the Massey University, New Zealand. Yuen joined the Department of Chemical and Environmental Engineering, University of Nottingham as a Lecturer from December 2009.

Research interests: Her PhD research topic was on designing and developing bioreactors for the propagation of neural stem cells under the supervision of Professor H.A. Chase in the University of Cambridge. She is currently teaching Particle Mechanics and is a member of the Process and Environmental Engineering Research Division.
Dr Joanne S. Lymn
BSc PhD FHEA
School of Nursing, Midwifery & Physiotherapy

Biography: Joanne Lymn completed a BSc (Hons) in Microbiology at the University of Surrey in 1983 before moving on to complete a PhD in vascular biology at the University of Leicester in 1991. Her interest in smooth muscle function lead to postdoctoral research positions first at the University of Oxford, where she also acted as a biochemistry tutor at St Catherine’s College, and later at Imperial College London. Following a successful few years as a Research Fellow Joanne was appointed to a lectureship in the department of Clinical Pharmacology at Imperial College London. In this position she led a small but highly successful research team investigating the regulation of vascular smooth muscle contractility. In addition she acted as convenor of both the ‘pharmacology and therapeutics’ and ‘integrated body function and dysfunction’ modules for medical students. It was here where her interest in teaching and learning really began to expand culminating in the development of a problem based learning exercise for use with larger students groups which continues to be used at Imperial. At the end of 2003 Joanne moved to The University of Nottingham where she took up a position as a pharmacology lecturer in the School of Nursing. Her key teaching role was to develop the non-medical prescribing curriculum.

Research interests: Joanne has maintained her scientific research interests forging collaborations within the Institute for Cell Signalling and Graduate Entry Medicine & Health. Her current research interests are around uterine smooth muscle contractility and pre-term labour and she has a published patent in relation to the use of transglutaminase inhibitors as potential tocolytic drugs. Joanne continues to successfully develop her interests in both prescribing, with particular emphasis on teaching and learning, and smooth muscle contractility. She has recently been appointed as Deputy Director of Research for the School of Nursing, Midwifery & Physiotherapy with a remit to improve the impact of research and develop an effective mentoring system.

Professor Mercedes Maroto-Valer
Department of Chemical & Environmental Engineering

Biography: Prof Mercedes Maroto-Valer completed her PhD on "An NMR investigation of plasticity in bituminous coals" in 1997 at the University of Strathclyde. This resulted in 40 publications and notable awards that included the Fuel Chemistry Division of the American Chemical Society Glenn Award and the Ritchie Prize for the best PhD dissertation in the Department. Following this, she undertook postdoctoral experience at the Centre for Applied Energy Research at the University of Kentucky and then as Assistant Professor at Pennsylvania State University in 2001 she became Program Coordinator for Sustainable Energy. Her work on energy by-products received the USA Department of Energy 2005 Award for Innovative Developments. She moved to the School of Chemical, Environmental and Mining Engineering at the University of Nottingham as Reader in 2005 and was promoted to Professor in Energy Technologies in 2008.

Research interests: Her research programmes range from blue sky research to proof of concept and patent development leading to commercialisation. She has significant experience in the permanent conversion of CO2 into carbonates (CCS by mineralisation) with her projects funded by the US Department of Energy and by Petroleum Development Oman. Prof Maroto-Valer is also working with the UK Energy Technologies Institute investigating the feasibility of the implementation of CCS by mineralisation in the UK collaborating with BGS, Shell and Caterpillar, and on a TSB/ EPSRC project on optimised compression technologies and materials for transport applications.
Dr Suzanne McGowan
BSc PhD
School of Geography

Biography: Suzanne McGowan completed a BSc (Hons) in Plant Science at the University of Liverpool in 1991 followed by NERC-CASE studentship based jointly at Liverpool and the Institute of Freshwater Ecology in Windermere. Her PhD developed the use of chlorophyll and carotenoid pigments as biomarker compounds alongside diatoms in lake sediments to reconstruct the long-term history of cyanobacteria (blue-green algae) blooms in the Shropshire Meres. She moved to Canada for three years in 2001 to take up a postdoctoral position funded by BC Hydro at the University of Regina reconstructing changes in flood frequency and its ecological impacts in the Peace-Athabasca Delta, northern Alberta. In 2004 Suzanne moved to the School of Geography in the University of Nottingham as a lecturer. Suzanne was promoted to Associate Professor in 2010.

Research interests: Suzanne has established a research programme ranging from contemporary aquatic ecology to long-term environmental change. She founded a local project at Attenborough Nature Reserve funded by Cemex UK Ltd aimed at improving the water quality of the gravel pits through a major river engineering project. She established a facility for the analysis of pigment biomarkers within the School of Geography that has attracted collaborations and visiting scientists from the UK, USA and Ireland.

“I have found the School of Geography to be an encouraging work environment which leads by example with many female role models and an equal balance of genders among the academic staff.”

Dr Paula Moran
School of Psychology

Biography: Dr. Moran’s career began at National University of Ireland where she completed a PhD on animal models of psychiatric disease. She subsequently spent six years in the pharmaceutical industry at the Marion Merrell Dow Research Institute, Strasbourg, France and led a number of drug discovery projects for Alzheimer’s Disease and Schizophrenia. Since then she has continued work on animal models of information selection abnormality in schizophrenia, as lecturer and then senior lecturer at the University of Leicester and since 2005 as Associate Professor and Reader at the University of Nottingham. Dr. Moran’s interest in promoting women in science was prompted by news from the Royal College of Anaesthetists that she was to receive an award in recognition of some scientific reviewing she had performed for them. She still treasures the man’s necktie she received but realised then that it was not going to be an easy. She combines her career with a family and would like to ensure that obstacles she has encountered are removed for future generations of women. The WinSET committee is striving to raise awareness of these issues and The University of Nottingham is notably supportive of and committed to efforts to redress these imbalances.

Research interests: Her research continued in the field of animal models of psychiatric disorders and there she initiated work on transgenic approaches to modelling Alzheimer’s Disease. She provided the first evidence that β-amyloid was associated with age-related cognitive loss in a transgenic mouse model, a keystone finding in the field. At the same time she initiated work on animal models of schizophrenia and their application to identify novel drug therapies. Recently she has expanded her research programme to develop a translational approach, investigating learning abnormality in patients with schizophrenia, children and adults at risk for schizophrenia and mice with genetic deletions.

“As a female scientist at Nottingham University I have always felt fully supported in developing my career goals.”
Dr Susanne Pumplun  
(PhD) Dipl. Math. (MSc)  
School of Mathematical Sciences  

Biography: Susanne Pumplun graduated with a Diploma in Mathematical Sciences MSc) from the University at Munster in 1992 and received her PhD magna cum laude from Fernuniversit at Hagen in 1995, where she worked as Scientific Assistant. From 1994 to 1996 she moved to New Mexico State University, USA, as Research Visitor and College Instructor. In 1996 Susanne returned to Germany, where she took an appointment at Universitat Regensburg. She became Privatdozentin and was awarded the ‘Venia Legendi’ after receiving her ‘Habilitation’ on her work on vector bundles over elliptic curves in 2002. The ‘Venia Legendi’ certifies the scientific and pedagogical suitability to lecture at a German university. The academic year 1998/9 she spent again at New Mexico State University, this time as Visiting Assistant Professor. In the autumn of 2003, Susanne was Visiting Associate Professor at Universita di Trento, Italy, in the frame of a SOCRATES exchange programme. Susanne became Lecturer in Pure Mathematics at the University of Nottingham in 2004 and was promoted to Associate Professor in Pure Mathematics in 2008.

Research interests: Her main research interests are nonassociative algebras, quadratic and hermitian forms, vector bundles and recently also coding theory.

Dr Patrizia Riganti  
Diploma (Arch) MPhil PhD ODA  
Department of Architecture and Built Environment  

Biography: Patrizia Riganti is a Lecturer in Architecture, and works within the Energy and Sustainability Research Division. She is Visiting Professor at the University “Federico II” Naples, and Adjunct Professor at the University of Nova Gorica. She is an appointed member of ICOMOS Italy and is part of 3 UNESCO working groups on UNESCO Cultural Conventions. She is an appointed member of Ce.Se.T and a Founding member of the International Association for Tourism Economics. Before moving to the University of Nottingham, she was a Lecturer in Architecture at Queen’s University Belfast from 2000 to 2005. She holds a Diploma in Architecture, a Ph.D. in environmental economics, and an MPhil in Urban Planning. She has pursued a cross-disciplinary approach encompassing Environmental Economics, Cultural Economics, Cultural Tourism, Architecture, Conservation of Cultural Heritage, Regional Sciences, Urban Design and Urban Planning.

Research interests: Her main research focus is on urban sustainable development, and the assessment of urban policies. She has an international recognized expertise in the economic valuation of management strategies for cultural heritage and in sustainable cultural tourism. Her research career has focused on the development of economic valuation methods for the assessment of policies addressing various aspects of sustainability.

“A friendly university environment, where I can focus on my research career and still care for my family, when they most need me.”
Dr Lyudmila Turyanska
PhD
School of Physics & Astronomy

Biography: Lyudmila Turyanska completed her M.Sc (Hons) in Chemistry and Chemical Engineering in 1997 and M.Sc. in Environmental Engineering in 1998 at Chernivtsi State University (Ukraine). Then she moved to the Institute of Physics, Charles University (Prague, Czech Republic) where in 2000 she obtained her PhD and worked as a research associate.

Research interests: In 2001 she moved to Nottingham. Following two-year maternity break, in 2004 she took up a part-time post-doctoral position funded by the EU Network of Excellence SANDEE in the School of Physics and Astronomy of The University of Nottingham where she studied two-dimensional semiconductor heterostructures with embedded quantum dots (also called artificial atoms).

“...The School of Physics and Astronomy offers a supportive and stimulating environment, opportunities for training and career development and family-friendly policies that are invaluable for young researchers and in particular for working women.”

Dr Ana Vukovic
DiplEng MSc PhD CEng
Department of Electrical and Electronic Engineering

Biography: Ana Vukovic completed her Diploma of Engineering in Electronics and Communications (Hons) in 1992 at University of Nis, Serbia. She then became Teaching assistant at the Electronic Faculty, University of Nis. During this period she completed 4-year MSc degree in Electronics and Communication at the University of Nis. She completed her PhD degree in Fourier Transformation Analysis of Optoelectronic Circuits in 2000, at Electrical and Electronic Engineering, University of Nottingham. She then took up an appointment as Postdoctoral Research Associate funded by EPSRC and in 2001 she was appointed Bookham Technology Lecturer in Optoelectronics at the same school. In 2005 she was awarded CEng by the Institution of Engineering and Technology.

Research interests: In the period 2000-2002 she acted as a consultant to three major companies in the field (Bookham Technology, Kamelian and Corning). She focused upon the field of optoelectronics with a particular emphasis on applications in multi-physics and hybridisation of methods. Her significant contributions are in the development of sophisticated software for modelling and optimisation of integrated photonic devices for future optical networks and biosensors. She was a co-investigator on 11 EPSRC and Royal Society projects. In 2009-2010 she was invited lecturer at the Misr International University, Cairo, Egypt. Her core research interests are firmly based in the field of electromagnetics, with particular emphasis upon applications in optoelectronics and microwaves.

“The University ‘family-friendly’ policy and flexible working time has enabled me to successfully balance my full-time academic commitments and busy family life.”

Dr Shudong Wang
PhD MRACI CChem FRSC
School of Pharmacy

Biography: Dr Shudong Wang completed her PhD in 1997 in the Central Queensland University, Australia. She moved to UK and joined Cyclacel Ltd., a biopharmaceutical company in Scotland as a medicinal chemist.

In early 2000, she was promoted to head of Chemistry and helped to establish medicinal chemistry and drug discovery capabilities of the company. From 2000-2005, as a program manager she was also involved in research and management of an oncology drug discovery program. She led a multi-disciplinary team composed of medicinal chemists, structural, molecular & cellular biologists; in vivo pharmacologists, external contracts and alliances, and successfully delivered a number of credible drug leads; some of which are currently at pre-clinic and clinic development stages. She was appointed to a Reader in the School of Pharmacy, University of Nottingham, in October 2005.

Research interests: Her current focus of research is discovery and development of novel protein kinase inhibitor drugs in various therapeutic areas. This involves structure- and target-guided design and synthesis of compound libraries that are used to characterise the cellular consequences associated with the diseases. The strategy holds promise for rapid advancement of drug discovery in an effort to identify both drug candidates and novel therapeutic targets.

Funded by Cancer Research UK (CRUK) Shudong has been working on Polo-like kinase 1 (PLK1) inhibitor project. Inhibition of PLK1 has shown to have differential effects in tumour versus “normal” cells in that ablation of PLK1 induces mitotic catastrophe and cell apoptosis, but causes arrest in normal cells. PLK1 is over-expressed in most human cancers and has been associated with more aggressive and deadly cancers. This project aims to prepare a class of membrane-permeable small molecules that can block activity of PLK-1. The lead compounds identified can be developed as novel cell-cycle agents for cancer therapy.

Another area of research, also funded by CRUK, is novel drugs targeting cyclin-dependent kinase 9 (CDK9). CDK9 activity is important in cancer, HIV, cardiac hypertrophy and inflammation. Many compounds inhibit CDK9 with low nM Ki values and possess potent anti-tumour activity. Using inhibitor compounds we can validate CDK9 inhibition as an effective anti-cancer strategy. The drug candidate compounds are being evaluated for the treatment of chronic lymphocytic leukaemia and other cancers. Further applications against HIV, cardiovascular and inflammatory diseases are also being investigated.
Dr Zoe A. Wilson  
BSc PhD FSB  
School of Biosciences

Biography: Zoe Wilson was awarded a BSc (Hons) in Botany from The University of Nottingham in 1986 after spending a year at Bath University, a year of work experience at Stauffer Agrochemical Company and Fisons Pharmaceuticals, and then completing her final two years of her BSc at Nottingham. She then carried out a PhD at Nottingham funded by Goodyear to work on the Genetic Manipulation of Rubber trees. Zoe then continued as a Postdoctoral Researcher working on the molecular biology of pollen development in Arabidopsis and in 1991 she was appointed to a lectureship in the Department of Botany, University of Nottingham. From 1995-2004 she had two periods of maternity leave and worked part-time to enable her to spend more time with her children. In 2004 she was promoted to Associate Professor and in 2010 to Reader in Developmental Plant Biology.

Research interests: Her research interests are in the molecular genetic analysis of plant development, focusing on male reproduction and the events occurring during pollen and anther development. She has used mutants defective at various stages of pollen development to study gene networks and is currently adopting systems approaches to construct and functionally test regulatory networks in pollen wall formation and anther secondary thickening. She currently has a research group of eleven people funded by the Biotechnology and Biological Research Council (BBSRC). Work has focused on the model species Arabidopsis, however now extends to crops and ornamentals including rice, barley, tomato and lilies. She has run workshops in China and been involved in teaching Summer School courses at SJTU.

"The supportive nature of Senior Staff in the School and flexible working practices has made it easier to combine having a family with a career."