

Inspirational innovators

Since its launch in 1988, the L'Oréal-UNESCO For Women in Science programme has been striving to promote the position of women in scientific research. As a result of its annual UK and Ireland National Fellowships, four outstanding young female researchers based at universities across the UK have been awarded prestigious career-enhancing fellowships, each worth £15,000



Dr Clémence Blouet, University of Cambridge

Blouet's research focuses on the consequences of a high-fat diet on the hypothalamus and the mechanisms that underpin obesity. Particularly crucial in a world where obesity and its associated diseases represent a major and ever-increasing threat to global public health, Blouet's work will advance scientific understanding about the impact of a high-fat diet on the plasticity of brain cells in the hypothalamus and explain how this affects the body's energy balance. "This award will help me investigate risky science questions and collect some pilot data to help obtain additional and more substantial research funding," she enthuses. The hope is that the findings from her research will pave the way for the discovery of novel therapeutic targets to treat obesity.



Dr Eva-Maria Graefe, Imperial College London

With a background in theoretical quantum dynamics in the context of atom physics, Graefe's current project is exploring how leaky quantum systems with engineered holes could in fact be advantageous. Using a formula known as non-Hermitian quantum mechanics – and drawing on her detailed knowledge of the mechanisms and effects of loss – she is forging exciting conceptual advances in this nascent field. Graefe is also aiming to develop new theoretical tools for the description and prediction of novel experimental applications. "This award [...] provides me with the financial means to invite and visit collaborators and to present my results on scientific meetings," she points out. "Second, it allows me to combine my family life and my research with much more ease, by providing resources for childcare as well as the opportunity to take my baby daughter with me when travelling. Finally, the prestige of the award has been very helpful in disseminating my research and I hope it will help me to achieve my long-term goal of building up a world leading research group in the area of quantum dynamics."



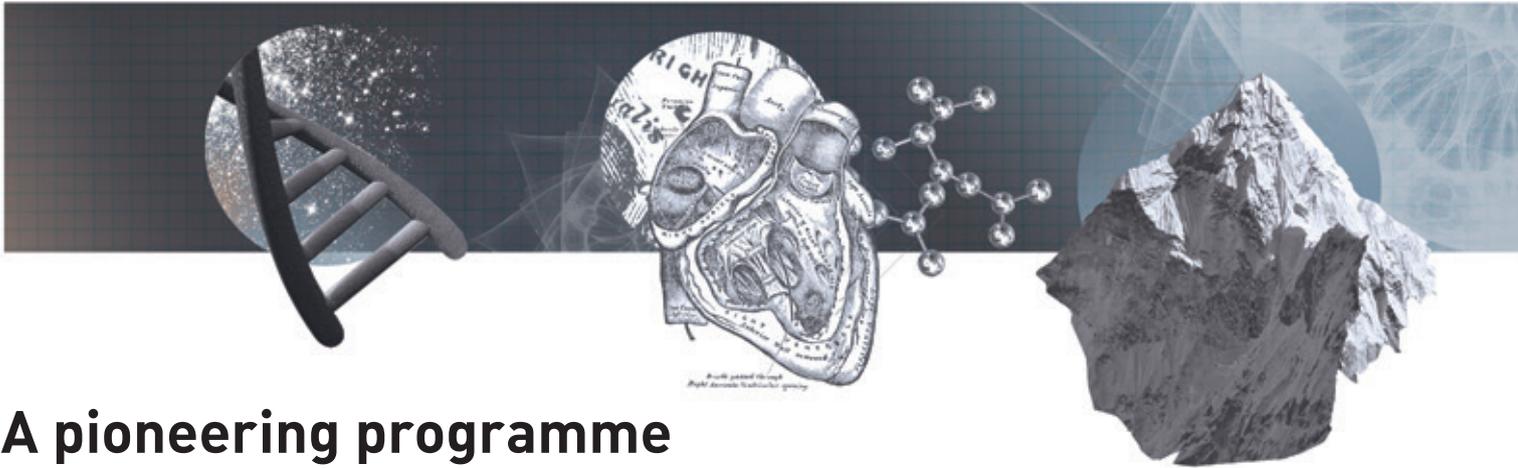
Dr Sneha Malde, University of Oxford

Pushing past the boundaries of the Standard Model of the Universe, Malde is attempting to answer a pressing scientific question: namely, why is the Universe dominated by matter? By analysing the data collected from Large Hadron Collider experiments, she is seeking to build a deeper understanding of the fundamental difference between matter and anti-matter. Encouragingly, recent advances have allowed for a precise measurement of this difference – and Malde is accordingly aiming to develop her method of measurement to probe the vast realms of data that have not yet been analysed. Her research, which heralds significant progress in the search for New Physics, has been bolstered by receiving this award: "It is wonderful to gain recognition for my work," she states. "I am using the funds for travel so that I can spend more time at the European Organisation for Nuclear Research (CERN) and attend more conferences. Collaborating with others on a face-to-face basis is an invaluable asset to efficient and creative working."



Dr Tracy Briggs, University of Manchester

Lupus is a common and potentially life-threatening disease in which the immune system becomes overactive, causing the body to attack its own tissue. In order to further knowledge about the origins of this disease, Briggs is investigating how its onset may be linked to a change in a single gene. Her seminal work in this field is helping to establish the genetic basis for familial forms of lupus that start in childhood and primarily affect the skin. "Winning this award has allowed me to start my research and obtain key preliminary data," she elucidates. "This data will form part of a larger grant application in the future, which will be vital for my career development."



A pioneering programme

Despite the achievements made by women in science to date, gender distribution in STEM fields remains stubbornly imbalanced in favour of men. The L'Oréal-UNESCO For Women in Science programme is tackling this head-on by recognising exceptional female scientists and supporting early-career women researchers throughout the world

WHEN IT COMES to forging a successful scientific career, women in the 21st Century have much better prospects than their female counterparts from previous generations. Yet in spite of significant gender equality advances – set in motion during the 1960s and 1970s – women continue to be underrepresented at all levels of R&D in every region of the world. For instance, the UNESCO Institute for Statistics estimates that just 30 per cent of researchers worldwide are female, while in the UK and Ireland women comprise only 13 per cent of STEM employees. Multiple studies have identified a number of recurring barriers to women in STEM, including a male-dominated working culture, a 'chilly' classroom environment, the insecure nature of science research and a lack of access to mentors.

In response to the pervasive gender inequalities in STEM, a number of visionary organisations have launched initiatives aimed at attracting and retaining women in science. The L'Oréal Group, with its roots in science and beauty, has demonstrated its commitment to the field by promoting female participation in science and advancing the careers of female scientists. Its primary vehicle for achieving these aims is

the innovative For Women in Science (FWIS) programme. Launched in 1998 in partnership with UNESCO, this programme offers fundamental support to women researchers across the world at different stages of their careers, as well as advocating scientific education through participation in exhibitions and joint ventures. "We are convinced that science and women bring hope and foster discovery, innovation and excellence," asserts Jean-Paul Agon, Chairman and CEO of L'Oréal and Chairman of the L'Oréal Foundation. "All the best talents must be called upon to accomplish this mission. L'Oréal believes in women, L'Oréal believes in science."

A LOCAL FOCUS

Importantly, the L'Oréal-UNESCO FWIS programme attempts to respond to pressing scientific challenges at a local, grassroots level – and the national fellowships it awards in almost 50 countries around the world are a strong testimony to this. For instance, the FWIS UK and Ireland fellowships provide four outstanding female postdoctoral scientists based in the UK and Ireland with flexible financial help to pursue their chosen research. Now entering their eighth year, these important fellowships – each worth

£15,000 – help women to launch their scientific careers by giving them the freedom to choose how they want to spend the funds. Revealingly, of the 289 women who applied for the fellowships in 2014, one-in-four said they would use the money to fund childcare, emphasising the intrinsic value of flexible funding for female researchers.

Announced at a ceremony at London's Royal Society in June, the winners of the highly competitive 2014 awards were of remarkable calibre. "Choosing between the shortlist was an exceedingly difficult task, as all the shortlisted women were hugely impressive in their individual fields," admitted Katriona Methven, Director of Scientific and Technical-Regulatory Affairs at L'Oréal UK and Ireland. "However, it was inspiring to see the extraordinary work that is being carried out in diverse scientific disciplines all across the UK."

Each of the four prizewinning researchers came from different universities – the University of Cambridge, the University of Manchester, Imperial College London and the University of Oxford – and their diverse research topics ranged from investigating New Physics to mapping the genetic origins of disease. The researchers reported that they would be using their funds for equipment, field trips, attendance at conferences, collaborations and childcare – and, looking ahead, the hope is that much-needed financial support in these respective areas will help them to develop and flourish as early-career scientists. Going forward, from 2015 onwards the number of UK and Ireland fellowships will be increased to five.

A GLOBAL PERSPECTIVE

The FWIS programme also offers national fellowships to women in science across the

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BROADENING STEM ACCESS

In early 2014, L'Oréal joined the UK Government's 'Your Life' campaign, which encourages young people to pursue science subjects at school and to consider entering a STEM career. It has pledged to dedicate an annual fund of £20,000 for the UK and Ireland Fellows community to support their roles as ambassadors for STEM in engaging the broader population – especially young people – in science. Additionally, in order to address the gender discrepancy in engineering – in the UK, just 6 per cent of the engineering workforce are female – from 2015 the FWIS programme will encourage young women to consider careers in the engineering, mathematics and computer science fields.

world and regional fellowships in the Arab States and sub-Saharan Africa. Since 2003, in India the FWIS programme has helped 10 young women annually to fund their studies at higher education institutes. By injecting vital funds into revolutionary science projects globally, the L'Oréal Group has helped create a dynamic network of dedicated researchers – indeed, by the end of 2014, more than 2,000 women scientists from over 100 countries had received support from the FWIS programme. Undoubtedly, two of the highest-profile and most important FWIS activities at a global scale are the L'Oréal-UNESCO International Awards and the International Fellowship programme.

The International Awards are devoted to women in science – their purpose is to celebrate the individual achievements of exceptional female researchers who, as a result of their passion and ingenuity, have made new discoveries and driven scientific progress. To contend for the International Awards, scientists worldwide are invited to nominate candidates, with a final selection of eminent female Laureates made by an international jury of top scientists chaired by Nobel Prize winners. The 2014 International Awards were presented to five women from five different regions – Latin America, Europe, North America, Asia-Pacific, and Africa and the Arab States – in recognition of the significant achievements they made in the respective fields of neurological disorders, mental health, immunology, cellular therapy and ecological food crop production.

The L'Oréal-UNESCO International Fellowships have been granted annually since 2000 to 15 promising young female scientists at the doctorate or postdoctorate level. Not only do they give these young high achievers the recognition they deserve, but they also provide them with the means to continue their scientific research journeys abroad and contribute to the development of collaborative, cross-cultural research networks.

FUELLING INNOVATION

In the present day, the world is facing more scientific challenges and opportunities than ever before. With a rapidly growing global population, threats to the environment and the explosion of new technologies, it is essential that both women and men participate in R&D, drawing on their unique experiences in order to contribute to the continued advancement of vital scientific knowledge. To this end, as a result of its tireless and forward-looking work, the L'Oréal-UNESCO FWIS programme is sowing the seeds for a fairer and more diverse future in STEM fields. As a benchmark for global scientific excellence, the programme will continue to help female researchers cultivate their commitment to scientific research, enabling them to make a tangible impact on society.

