

THE DAPHNE JACKSON TRUST IN 2013



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The Daphne Jackson Trust has enjoyed another successful year and we continue to see an increasing number of universities and sponsoring organisations engaging with us and recognising the need to support talented individuals wishing to return to their careers.

The number of Fellows in post at any one time in 2013 increased to 53. This growth is in large part due to the successful introduction of sponsored fellowship arrangements. During the year, 5 new sponsored fellowship arrangements were agreed, with at least 7 more in the pipeline for 2014. Many of these sponsorship arrangements are ongoing and guarantee support for additional Fellows in future years.

This is a major achievement for the Trust and a testament to the hard work and dedication of our Chief Executive Dr Katie Perry, and her staff team. In addition, I am extremely grateful to our dedicated board of Trustees who provide a wealth of experience and ensure the Trust is effectively governed and continues to develop as we move forward. I would like to thank all our new and existing sponsoring organisations for their support in enriching the diversity of the scientific workforce.

As a charity, we do rely on individual donations to continue our work in reaching out to returners. We are extremely grateful to those individuals and organisations who generously support the Trust's work in this way, many on an ongoing basis. We invite you to donate online through our website daphnejackson.org and join the Daphne Jackson Trust in its drive to ensure that more talented individuals return to their STEM careers.



Professor Dame Glynis Breakwell,
Vice Chancellor University of Bath and
Daphne Jackson Trust, Chair of Trustees

Making an impact

The Daphne Jackson Trust in 2013

For more than 20 years, the Daphne Jackson Trust has been successfully returning scientists, technologists, engineers and mathematicians (women and men) to their careers after a break of two or more years taken for family, caring or health reasons.

We want to celebrate the successes of the Trust and its Fellows, and highlight the valuable role the Trust plays in encouraging and supporting a diverse array of talented and highly qualified individuals to return to the work force following a career break. The 2013 Annual Review is a part of that celebration and gives you a taste of what we've achieved during the year:

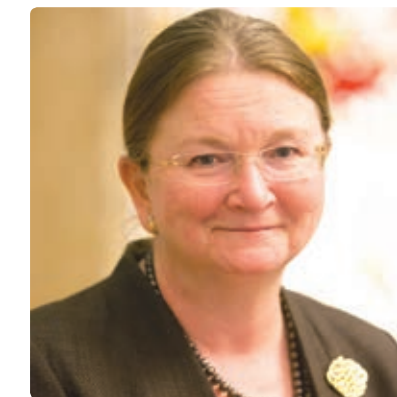
This year we have seen an increase in the number of people enquiring about our fellowship scheme, a rise in the number of universities and other sponsoring organisations wishing to host and sponsor Fellows, and consequently an increase in the number of Fellowships awarded. On reading this review, we hope you will agree that there is much to celebrate.

Our achievements would not have been possible without our dedicated staff team and the wealth of expertise that we draw on from our Board of Trustees. As the application process for fellowships becomes more competitive, we have increased the

membership of our Awards Assessment Panel and created an Awards Strategy Committee to ensure best practise in our processes.

To maintain the high quality of mentoring and support that we provide to every individual who approaches us wishing to return to research, we are now expanding our Fellowship Advisor team. In 2013 we welcomed two new Fellowship Advisors, Dr Helen Marsh and Dr Nicky Evans, to replace our two existing Advisors who moved on to pastures new, and early in 2014, the team will expand to include a third Advisor, Dr Katherine Rooke.

In 2013 we also welcomed a new Communications and PR Manager, Dr Caroline Cross, who has brought a fresh look to all our communications. The Trust's logo is now integrated into all our printed and online publications and with invaluable technical support from the University of Surrey's web team, Caroline has transformed the Trust's website. She also managed two very



Professor Dame Glynis Breakwell



Dr Katie Perry and Professor Dame Glynis Breakwell with several Trustees

successful networking events in 2013, including the inspiring research conference we held at the Royal Society in October.

As the UK's only organisation solely dedicated to returning STEM professionals to their careers following a break, our expertise in this area is increasingly sought after. I continue to represent the Trust on a number of committees and working groups looking at the issues facing those wishing to return to STEM careers. I am also a member of the judging panel for the Athena SWAN charter and the Royal Society's diversity steering group. In Autumn 2013, Trust Advisor and former Daphne Jackson Fellow Dr Pia Ostergaard, presented oral evidence on behalf of the Trust to the House of Commons Science and Technology Select Committee inquiry on women in academic STEM careers. You can read more about the Trust's contribution to, and the outcomes of the enquiry, on page 13.

2013 has been a productive year for the Trust, but without doubt, the highlight for me in 2013 and early 2014 has been securing a

further 12 sponsorship agreements. Many of the new arrangements are to sponsor more than one Fellow, and mean that more than 20 new Daphne Jackson Fellows will return to their research careers in the coming months.




Dr Katie Perry,
Chief Executive,
Daphne Jackson Trust

The Trust's team

During the last year there were several changes to the Trust's staff team. We welcomed two new Fellowship Advisors - Dr Helen Marsh joined us in May 2013 while Dr Nicky Evans was recruited in December and started in January 2014. In 2014, as we continue to see an increase in the number of people interested in applying for fellowships, a third Advisor, Dr Katherine Rooke will join the team.

The new Fellowship Advisors replace Dr Thomas Hesselberg who left to concentrate on his own research at the University of Oxford, and Dr Lynn Boniface who has moved to another role at the University of Surrey. In addition, our Senior Fellowship Advisor, Dr Pia Ostergaard took a step back from her role at the Trust following her successful

appointment to a full-time lectureship post at St Georges, London. Pia remains as an Advisor and continues to actively support the work of the Trust.

Dr Caroline Cross joined the Trust in May 2013 as Communications and PR Manager, and works 3 days per week.

All our Fellowship Advisors have research backgrounds covering fields as diverse as biophysics, chemistry and genetics. This research insight, coupled with many other relevant skills and experience, contributes to the unrivalled level of support they offer individuals applying for Daphne Jackson Fellowships.

Returners face many challenges when trying to resume their research careers following a break of two or more years, and often lack confidence, skills and recent research experience. Daphne Jackson Fellowships help by offering a unique combination of mentoring and retraining coupled with the opportunity to carry out a novel research project in a

'We see the candidates' whole story not just their CV. We fully understand why career breaks happen and the demands of life outside of research and how not all life events can be carefully planned for.'

Dr Helen Marsh, Fellowship Advisor



suitably supportive environment. The fellowship application process itself helps applicants prepare for the reality of a research career and helps rebuild self confidence.

Candidates are allocated a Fellowship Advisor as soon as their eligibility and suitability are confirmed and this Advisor remains their main point of contact and support throughout the application and Fellowship.

This ongoing support, together with the flexibility the Fellowship affords, undoubtedly contribute to the high success rate we have of Fellows continuing their research after completing their Fellowship.

Members of the staff team from left to right: Mrs Elaine Hunt, Dr Katie Perry, Dr Thomas Hesselberg, Mrs Rosemary Lawrence, Dr Caroline Cross, Mrs Bina Preston, Dr Pia Ostergaard and Dr Helen Marsh

A Fellow's view

Until I discovered the Daphne Jackson Trust, I doubted I could return to the research I love.

From the start, the Daphne Jackson application process considered my career breaks and part-time working and seemed to look beyond them. I had a constructive phone interview where the impact of my breaks together with the training needs I had, were thoroughly discussed. Far from feeling these were insurmountable barriers, I began to feel that, just possibly, here was a scheme that could help me to overcome them.

There is no doubt in my mind that the support and guidance I received from my Fellowship Advisor was instrumental in my successful application. Throughout the process I was given constructive advice on writing the proposal, helpful suggestions of elements to consider, and useful insight into career directions I might think about.

The Fellowship Advisors involved in my interview were highly skilled at putting me at my ease, leaving me feeling comfortable to discuss each element of my proposal in a positive environment.

In the short time since I was awarded the Fellowship, opportunities are appearing. I have given an invited talk and discussed potential collaborations with several researchers. This is the opportunity I was hoping for and it would not have been possible without the Daphne Jackson Trust and their wise and supportive team.

Tamsin Majerus,
NERC sponsored Fellow at University of Nottingham



Dr Helen Marsh at work



Dr Katherine Rooke



Dr Nicky Evans



Dr Pia Ostergaard

DR HELEN MARSH

Why did you become a Fellowship Advisor?

I really believe in the work of the Trust. Research careers are very weighted against family life in terms of part-time work, flexibility and secure long term contracts. So much talent is being wasted as a result of this. I was doing my third post-doc, and with the birth of my second son, I felt I could no longer commit to the demands of a research career. Being a working parent, I fully understand the different demands our applicants face and how hard it is to achieve a satisfying work-life balance.

What do you enjoy most about your job?

I enjoy hearing individual stories from the diverse array of applicants we speak to, and following their progress through the Fellowship and afterwards post Fellowship. I also enjoy working as part of the Trust's friendly and approachable team.

Are there any down sides?

It is hard when we have to tell people they haven't been successful especially when I have come to know them as an individual. But there is no guarantee of success.

DR KATHERINE ROOKE

DR NICKY EVANS

What does your job as a Fellowship Advisor involve?

Like our other Advisors, I work part-time. Most of my time is spent speaking to people who have enquired about our Fellowship scheme - taking their history and assessing if they are eligible and suitable to apply. I work with candidates and applicants, helping them to produce and refine a research proposal to take forward to our Awards Assessment Panel. I continue as a point of contact for Fellows as they progress through their Fellowship, checking on their progress and helping them to address any issues that may have arisen since their Fellowship began. It's a privilege to speak to so many interesting and committed scientists.

How does the Daphne Jackson Trust's unique approach benefit candidates/applicants?

Each candidate, applicant or Fellow has a named Fellowship Advisor to work with. This makes it possible to really build up a relationship with them. We do our very best to support and encourage people through the application process and then throughout their Fellowship.



2013 Research Conference Showcasing Fellows' research



Clockwise from top left:
Dr Pia Ostergaard, Dr Morag Maskey, Dr Julie Maxton, Dr Josephine Mmojele

< Trust Patron and science journalist Vivienne Parry presented a prize to
Dr Tamsin Majerus for her winning poster, and carried out an impromptu interview!

The 2013 Daphne Jackson Trust Conference was a huge success with 120 delegates, including 44 current and former Daphne Jackson Fellows, enjoying an inspiring day of talks and poster presentations in delightful surroundings at the Royal Society in London.

We welcomed current, past and future Daphne Jackson Fellows from all over the UK, and representatives from universities, sponsoring organisations, and learned societies who all seized the opportunity to meet and network with one another and with our Trustees and staff.

The conference was introduced by Dr Julie Maxton, Executive Director of the Royal Society and Professor Dame Glynis Breakwell, Chair of the Daphne Jackson Trust's Board of Trustees. Both speakers highlighted the importance of removing the barriers facing women wishing to return to research and emphasised the importance of returners schemes like the Daphne Jackson Fellowships.

We enjoyed presentations from 8 Fellows who gave us a flavour of their research on topics ranging from the fine structure of DNA to exploiting decomposing biomass as a renewable fuel source. The prize for best oral presentation was awarded to Dr Morag Maskey, a Daphne Jackson Fellow at Newcastle University, who gave a fascinating talk on developing virtual reality environments to help reduce anxiety in children with autism (you can read more about Morag's research on Pg17).

Delegates and speakers >
enjoyed lively discussion
after each presentation.



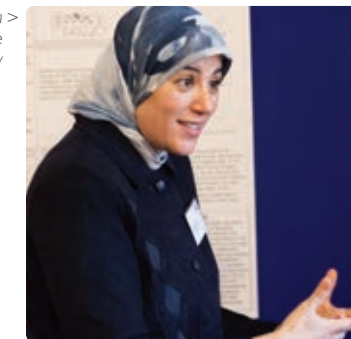
Professor Dame Glynis Breakwell with Professor Andrew Deeks

In addition, 25 Fellows presented their research as posters and again, the standard was very high. Dr Tamsin Majerus, a Fellow at Nottingham University, won a prize for her outstanding poster in which she presented a colourful perspective of how the spot patterns of ladybirds can influence survival and reproductive fitness. Dr Divya Tiwari, a Fellow at Cranfield University, was also highly commended for her poster which the judges thought was particularly clear and easy to navigate.

Vivienne Parry, science journalist and Patron of the Daphne Jackson Trust, presented prizes to the deserving winners and shared a few of her own top tips on how to successfully present research to non-expert audiences. She also congratulated all the Daphne Jackson Fellows on their determination and commitment, which she said are the hallmarks of the Daphne Jackson Fellowship.

Networking at the conference was a highlight for many of the delegates who responded to our post-conference survey, and as a direct result of the event we welcome on board several additional organisations who will be sponsoring Daphne Jackson Fellows in the future.

Dr Dalia Zakaria >
current Daphne
Jackson Fellow



Fellows discuss their research during the poster session

The event was generously sponsored by the Royal Society and the Royal Commission for the Exhibition of 1851.

‘Many, many thanks for the award at the conference. It was such a confidence boost and a lovely way to end the Fellowship. The conference itself was such an inspiring event with a wonderful group of Fellows all so supportive of one another.’

Dr Morag Maskey, Winner of the oral presentation competition, Current Fellow, University of Newcastle.

‘I went back to my College and recommended a change in College policy for employability and next steps for our sixth formers based on some of the discussions had, and talks I heard.’

Conference delegate

Building networks

Bringing people together to share their experiences of returning to research is a key part of the Daphne Jackson Trust's work to support its Fellows.

The Trust supports networks in a number of ways: promoting online networking via LinkedIn, Facebook and Twitter; encouraging Fellows to meet up informally with other Daphne Jackson Fellows, and organising larger networking events. In 2013 the Trust organised two events, the Research Conference at the Royal Society in London (read more on pages 6-7), and an event at the Rutherford Appleton Laboratory (RAL) in Oxfordshire.

We are grateful to the Science & Technology Facilities Council and our Trustee Professor John Wood who facilitated the event, which included a fascinating tour of the ISIS facility. ISIS is an accelerator-based neutron source that produces sub-atomic particles called neutrons and muons. The facility supports a national and international community of more than 3000 scientists carrying out research into subjects ranging from clean energy and the environment, pharmaceuticals and health care, to nanotechnology and materials engineering.

Over 30 delegates attended the event in June 2013, including past, present and future Fellows, Trustees and representatives from the

BBSRC, the Physiological Society and a number of host universities. In addition to the tour, delegates enjoyed a networking reception and presentations from former Fellow and current researcher at RAL, Dr Julie Kirk and Rosie Sherry, HR Manager for the site.

The 2013 Research Conference was an opportunity for many of our current Fellows to showcase their research, and for them and others to discover common research interests and build collaborations. It was also an excellent opportunity for our sponsors and potential sponsors to see at first hand, just how successful our fellowship scheme is in returning researchers to their careers, with confidence.

As a result of networking at the conference, five current Fellows and two fellowship candidates met in Birmingham in January 2014 and discussed experiences and plans for the future. The group now plans to meet quarterly.

This Midlands network will complement existing active networks in Scotland, Cambridge, Oxford and Surrey. Others are planned for the Bristol area, the North East

and the North West. These networks allow past and current Fellows to support one another and share common experiences. Applicants are also invited to join a network whilst in the application process.

Fellows also have the chance to network with others when they attend one of four compulsory training courses during their Fellowship. This year, former Fellows Dr Gillian Forrester and Dr Bernadette Egan joined Fellows at the work-life balance course, held in Guildford, giving current Fellows an opportunity to glean useful tips on how to successfully make the transition from Fellowship to independent researcher.

Plans are also underway to develop a network of friends of the Daphne Jackson Trust, so that every UK university that supports STEM research has a local friend of the Trust who can offer information to those wishing to find out more about the Trust's work.

If you would like to become a friend of the Daphne Jackson Trust, please do get in touch.

Top to bottom:

Tour of RAL

Fellows share working lunch with former Fellow Dr Gillian Forrester

Fellows discuss tips for managing the work-life balance with trainer Dr John Rayman

Fellows meet Trust staff at networking event



Daphne Jackson Fellows starting in 2013

	HOST	DEPARTMENT	SPONSOR/S	SUBJECT	SPECIALITY
DR BATOOL AHMED-OMER	University of Cambridge	Department of Chemistry	University of Cambridge	Chemistry	Flow Chemistry
DR AMAN ASIF-MALIK	University of Leicester	Department of Psychology - Behavioural Neuroscience Group	University of Leicester and BBSRC	Psychology	Neuroscience
DR CLARE BIRD	University of Edinburgh	School of Geosciences	University of Edinburgh and NERC	Environmental Sciences	Microbiology
DR MARY BOARD	University of Oxford	Nuffield Department of Clinical Lab Sciences	Make My Day Better	Medical Sciences	Stem Cells
DR ESTHER CROOKS	University of Derby	School of Science	University of Derby	Biological Sciences	Biochemistry
DR ANITA DAVES	The Open University	Department of Physical Sciences	The Open University and STFC	Physics	Astronomy
DR MARGARITA FERNANDEZ-CHAS	Kings College London	Department of Biomedical Engineering	RAEng	Engineering	Biomechanics
DR HEATHER IMRIE	University of Liverpool	Department of Health	BBSRC	Biological Sciences	Veterinary Science
DR JOHANNA JARVIS	The Open University	Department of Physical Sciences	The Open University and STFC	Astrophysics	Chemical Analysis
DR LI LIU	University of Leicester	Department of Chemistry	University of Leicester and private sponsor	Chemistry	Chemical Analysis
DR TAMSIN MAJERUS	University of Nottingham	School of Biology	University of Nottingham and NERC	Biological Sciences	Zoology
DR AMANDA NOBLE	University of York	Department of Biology	Prostate Cancer UK	Biological Sciences	Cancer Biology
DR RURAMAYI NZUMA-MSWAKA	Queen's University, Belfast	School of Biological Sciences	Society of Chemical Industry	Biological Sciences	Molecular Biology
DR MARINA PTUSHKINA	University of Manchester	Faculty of Medical & Human Sciences	MRC	Biological Sciences	Biochemistry
DR JAMUNA SELVAKUMARAN	Royal Holloway, University of London	School of Biological Sciences	BBSRC	Medical Sciences	Molecular Biology
DR GEMMA SWEENEY	University of Huddersfield	Department of Chemistry	University of Huddersfield and EPSRC	Chemistry	Structural Chemistry
DR DIVYA TIWARI	Cranfield University	Department of Engineering Photonics	RAEng	Materials Sciences	Nanotechnology
DR KATEWARD	University of Sussex	Department of Geography	NERC	Environmental Sciences	Climate Change
DR LORRAINE WILSON	University of St Andrews	School of Biology	University of St Andrews and NERC	Biological Sciences	Ecology
DR ZOULIKHA ZAIDI	Kings College London	Institute of Pharmaceutical Science	Kings College London and MRC	Mathematics	Pharmacology

Daphne Jackson Fellows continuing in 2013

	HOST	DEPARTMENT	SPONSOR/S	SUBJECT	SPECIALITY
DR SARAH BUCKLAND	University of Sheffield	Department of Animal and Plant Sciences	NERC	Biological Sciences	Ecology
DR HELEN CORNWELL	University of Bath	Department of Mechanical Engineering	University of Bath and RAEng	Engineering	Mechanical Engineering
DR HARRIET DAVIES	University of Birmingham	School of Biosciences	University of Birmingham, BBSRC and MRC	Medical Sciences	Bioinformatics
DR NOKUTHULA DUBE	Imperial College	Department of Physics	RAEng	Physics	Material Science
DR SHEILA FLANAGAN	University of Cambridge	School of Biological Sciences	University of Cambridge	Neurosciences	Neuroscience
DR DEBRA FREDERICKSON MATIKA	University of Edinburgh	School of Biological Sciences	University of Edinburgh & BBSRC (extension)	Biological Sciences	Molecular Biology
DR ANKE HUSMANN	University of Cambridge	Department of Materials Science and Metallurgy	University of Cambridge	Physics	medical engineering
DR HILARY KAY	University of Manchester	Jodrell Bank Centre for Astrophysics	Royal Astronomical Society	Physics	Astronomy
DR JANE KING	University of Manchester	Faculty of Life Sciences	MRC	Medical Sciences	Molecular Biology
DR JOSEPHINE MMOJIEJE	Aston University	School of Engineering and Applied Science	Aston University	Engineering	Clean Energy
DR BEATE NURNBERGER	University of Edinburgh	School of Biological Sciences	NERC	Biological Sciences	Bioinformatics
DR MARGARET O'HARA	University of Birmingham	School of Physics	University of Birmingham and EPSRC	Physics	Molecular Physics
DR CAROLINE SCOTT	University of Oxford	Weatherall Institute of Molecular Medicine	MRC	Medical Sciences	Molecular Biology
DR SRISIVANE SIVANESAN	Oxford Brookes University	Department of Mechanical Engineering and Mathematical Sciences	Oxford Brookes University and EPSRC	Mathematics	Applied Mathematics
DR IMANE STRUDWICK	University of Surrey	Department of Physics	University of Surrey and EPSRC	Physics	Medical Physics
DR JOANNE TAYLOR	Royal Botanic Gardens, Edinburgh	Genetics and Conservation Section	NERC	Biological Sciences	Ecology
DR CAROLINE M TAYLOR	University of Bristol	Centre for Child and Adolescent Health	University of Bristol	Medical Sciences	Statistics
DR RACHEL WHITE	University of Aberdeen	Institute of Medical Sciences	University of Aberdeen	Medical Sciences	Arthritis
DR BETINA WINKLER	University of Exeter	Biosciences, College of Life and Environmental Sciences	University of Exeter and BBSRC	Biological Sciences	Animal Science
DR KIM WOODRUFF	University of Manchester	Faculty of Life Sciences	Leverhulme Trust and The Physiological Society	Medical Sciences	Neuroscience
DR DALIA ZAKARIA	University of Bristol	School of Cellular and Molecular Medicine	University of Bristol	Medical Sciences	Microbiology

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Mrs Janet Purnell
Professor Sibel Roller
Mr Richard Rooley
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Professor Sibel Roller
Professor Nicola Woodroffe

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Advisor
Mrs Bina Preston
Finance Manager
Dr Katherine Rooke
Fellowship Advisor

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Ms Vivienne Parry
Ms Maggie Philbin
Professor Sir Christopher Snowden

Number of Fellows supported

32 Fellows were supported between 1985 & 1992 under a pilot scheme set up by Daphne Jackson

33
1993
1998

42
1998
2003

69
2003
2008

76
2008
2013

two thirds of UK universities

that support STEM research have hosted and/or sponsored a Fellow

12

organisations

agreed ongoing sponsorship to support one or more Daphne Jackson Fellows annually, or biennially

Proportion of all Fellows returning to 8 different STEM areas



- Biological Sciences
- Chemistry
- Computer Sciences
- Engineering
- Environmental Sciences
- Mathematics
- Medical Sciences
- Physics

7 out of 10 Fellows

stay in research after successfully completing their Fellowship

Fellowship enquiries received from 336 individuals during 2013

Regional locations of current Fellows



Sponsors

UNIVERSITIES

Aston University
Durham University
Edinburgh Napier University
Imperial College, London
King's College London
Loughborough University
Lucy Cavendish College, Cambridge
Newcastle University
Northumbria University
Oxford Brookes University
Peninsula Medical School
Royal Holloway, University of London
The Open University
University College London
University of Aberdeen
University of Bath

We are extremely grateful to all the sponsors and donors who have supported our work

University of Birmingham
University of Bristol
University of Cambridge
University of Cardiff
University of Derby
University of Edinburgh
University of Exeter
University of Huddersfield
University of Kent
University of Leicester
University of Nottingham
University of St Andrews
University of Stirling
University of Surrey
University of Sussex
University of Warwick
University of the West of England, Bristol

INDUSTRY

BICC
BP
British Gas
British Telecom
Cable & Wireless
Eastern Electricity
Electricity Council
GEC
GlaxoSmithKline
ICI
ICL
Lloyds TSB
National Grid Transco
Pfizer Limited
Rank Xerox
Rolls-Royce
Scotia Pharmaceutical
Shell UK

CHARITIES

Diabetes UK
Gatsby Charitable Foundation
Make My Day Better
National Endowment for Science, Technology & the Arts
Prostate Cancer UK
Royal Commission for the Exhibition of 1851
The Clothworkers Foundation
The Elizabeth Nuffield Education Fund
The Laura Ashley Foundation
The Leverhulme Trust
The Nuffield Foundation
Thriplow Charitable Trust
Vodafone Group Charitable Trust

LEARNED SOCIETIES/PROFESSIONAL INSTITUTIONS

Institute of Physics
The Physiological Society
The Royal Academy of Engineering (RAEng)
The Royal Astronomical Society

The Royal Meteorological Society
The Royal Society of Chemistry
The Royal Society
Society of Chemical Industry

RESEARCH COUNCILS/PUBLIC FUNDING

Biotechnology & Biological Sciences Research Council
European Social Fund
Engineering & Physical Sciences Research Council

Medical Research Council
Natural Environment Research Council
Science & Technology Facilities Council

Donors

British Pharmacological Society
Buckee Family Trust
Department of Physics, University of Surrey
Esso
Garfield Weston
GEC

HSBC
ICI
Institute of Physics
L'Oreal
JSF Pollitzer Trust
Motorola Foundation (USA)
Oxford Instruments

PowerGen
Smiths Industries
The Goldsmiths' Company
The Royal Academy of Engineering
The Royal Society of Chemistry

The Science Council
The Wellcome Trust
UK Resource Centre for Women in SET
Vodafone
Zenica

We are also extremely grateful to the individual Fellows, alumni and friends of the Trust who generously support our work on an ongoing basis.

In the spotlight



Daphne Jackson Fellows are inspirational and by sharing their stories demonstrate just how successful our fellowship scheme is in providing the flexibility and support people need when returning to research after a career break. In 2013 we were pleased to see several Daphne Jackson Fellows, past and present, in the media.

Dr Nancy Irwin (DJ Fellow '09-'12), an evolutionary biologist specialising in tube-nosed bats, at the University of York, published research carried out during her Fellowship on the diversity of bat species in Africa, and found it garnered media interest as far as India, and was featured in National Geographic magazine online.

Dr Caroline Taylor, who will complete her Daphne Jackson Fellowship at Bristol University in 2014, found that when she published her important research on maternal lead levels and their effect on infant health, she was inundated with requests for interviews. Her research was profiled on local radio and Sky news, in the Daily Mail and Telegraph newspapers as well as the NursingTimes.

Professor Margaret Rayman (DJ Fellow '94-'96) was featured in an article in the Times on women who return to their careers after a long break. In addition several Fellows, including **Dr Betina Winkler**, were profiled on their University websites and presented their work at conferences and other meetings.

Dr Gemma Sweeney, a current Fellow at the University of Huddersfield shared her experiences during an online event called ChemCareers. The Trust's work and its Fellows, were also profiled in magazines such as Engineering Design Magazine and Government and Public Sector Journal.

Dr Josephine Mmojeje, a Daphne Jackson Fellow at Aston University won the regional final of 'Famelab' - a competition to identify 'the new voice of science communication'. Josephine captivated audiences with her presentation on the development of commercially viable technologies for biomass conversion for use in the fuel industry. The accolade took her to the UK Grand Final of the competition at the Bloomsbury Theatre in London in April 2013.

Dr Gillian Forrester (DJ Fellow '04-'07) took part in a BBC4 documentary series called 'Dissected'. Gillian is a neuroscientist, and her research on the brain's involvement in left/right handedness is featured in a programme called 'The Incredible Human Hand' that aired in February 2014.

< From top left: Dr Caroline Taylor, Dr Gillian Forrester, Dr Katie Perry, Professor Margaret Rayman, Dr Betina Winkler, Mrs Rebecca Ward



Dr Gillian Forrester's research was featured in a BBC4 documentary

One of the highlights of the year for the Daphne Jackson Trust team was when **Dr Katie Perry** was invited to join the then president of the Royal Society of Chemistry, Professor Lesley Yellowlees and former Fellow **Rebecca Ward** (DJ Fellow '10-'12) on Radio 4's Women's Hour to talk about career breaks and returning to research with a Daphne Jackson Fellowship. As a direct result of this publicity, the Trust received a very generous donation from a single donor and a request from the charity 'Make My Day Better' to sponsor a Daphne Jackson Fellow. The Fellow selected, **Dr Mary Board**, is now in post at the University of Oxford.

We look forward to seeing more Daphne Jackson Fellows in the spotlight in 2014.



Dr Josephine Mmojeje won Birmingham's Famelab in 2013 and participated in the UK Grand Final in London



Dr Pia Ostergaard, Trust Advisor

House of Commons Select Committee inquiry on women in STEM careers

Despite efforts to improve diversity in the STEM workforce, women still remain under-represented at senior levels across every discipline. Perceptions and biases, often subconscious, combined with the impracticalities of combining a career with family are recognised as some of the reasons that fewer women stay in STEM disciplines.

The inquiry received more than 90 written submissions from individuals and organisations including Daphne Jackson Fellows and the Trust itself. Dr Pia Ostergaard, a former Daphne Jackson Fellow and current Trust Advisor who has successfully returned to academic research at St George's, University of London, subsequently presented oral evidence on the Trust's behalf. She emphasised the difference between planned maternity breaks and extended, often unplanned, career breaks.

Although the inquiry did not uncover any new issues, its report makes several recommendations for action. It calls on the Government to work with the higher education sector to review the academic career structure and increase the number of longer-term positions for post-doctoral researchers.

The report recommends that universities do more to retain women in scientific careers. It recognises the importance of Daphne Jackson Fellowships in encouraging women to return to and progress in STEM careers, and urges universities to support more Daphne Jackson Fellows.

In addition, with funding from the Department of Business Innovation and Skills (BIS), the Daphne Jackson Trust is now carrying out a feasibility study that, in partnership with engineering industries, will identify ways to encourage women to return to the engineering profession.



^ Dr Margaret O'Hara and Dr Chris Mayhew



^ Dr Li Liu networking at our Research Conference

Returning to non-invasive diagnostics research

DR MODUPE JIMOH, DR LI LIU AND DR MARGARET O'HARA

Our breath is like a fingerprint - it contains a unique signature of chemical compounds, some of which relate to health status. Identifying volatile organic compounds (VOCs) in breath samples is an expanding field and three Daphne Jackson Fellows, Dr Modupe Jimoh, Dr Margaret O'Hara and Dr Li Liu have been exploring whether the technique can be exploited as a non-invasive tool for diagnosing disease.

Volatile organic compounds (VOCs) can be produced anywhere in the body and are transported via the bloodstream to the lungs, where they are exhaled. VOCs in breath are indicative of VOC levels in blood, and the biochemical processes occurring in the body. It's possible that differing levels of the same VOCs in the breath of patients versus healthy volunteers could indicate disease, and be used as biomarkers for disease diagnosis.

Dr Modupe Jimoh completed her Daphne Jackson Fellowship in 2013. During her Fellowship she explored high-throughput methods for analysing aldehyde compounds in breath samples. She developed a reliable and rapid non-invasive clinical tool for biomarkers of oxidative stress which might in future be developed as a screening method for detecting development of cancers and neurodegenerative diseases such as Alzheimer's and Parkinson's disease. She has been invited to write a paper for the Journal of Breath Research and hopes the diagnostic capabilities of the method will now be assessed in clinical trials. Modupe is now a research fellow in the Division of Food Science, at the University of Nottingham working in a related research area that involves studying the dynamics of in-mouth release of volatile flavour compounds that influence food taste perception.

Dr Li Liu began her Fellowship in January 2013 at the University of Leicester after relocating to the UK with her husband's job. She joined Professor Andrew Ellis' group as part of a multi-disciplinary team developing non-invasive diagnostics and is exploring the chemical

constituents of breath samples from pancreatic cancer patients looking for breath biomarkers.

Dr Margaret O'Hara also returned to research in 2013. She is no stranger to breath analysis research and has returned to Dr Chris Mayhew's research group at the University of Birmingham to carry out her Fellowship. Prior to her career break, Margaret developed a rebreathing protocol to examine differences between breath measurements made using online methods and those made using bags. The work has been cited numerous times. Margaret is currently analysing breath samples looking for biomarkers of liver cirrhosis, using related but different methodologies.

Li and Margaret met for the first time at the Trust's Research Conference in October 2013 where they both presented their work as posters.

'Meeting Li at the conference consolidated the links between the Birmingham and Leicester groups and encouraged me to get in touch with them about some common problems. I am organising a half

day meeting and have asked Li to give a talk. We have a great deal of common ground, not only in applications but also in instrumentation.' Explained Margaret.

Non-invasive diagnostics is a rapidly expanding field, and moves are afoot to standardise the methodologies involved, so comparisons between different studies can be made. The International Association of Breath Research has established a task force to develop sets of standards for breath sampling, which Margaret says, should help.

Our Fellows and their research are making valuable contributions to these efforts and will undoubtedly help realise the potential of breath analysis as a non-invasive diagnostic tool for clinical use.

'Margaret is doing outstanding work and is already being recognised. For example, she has given a keynote talk at a breath analysis conference.'

Dr Chris Mayhew, Supervisor

'Dr Liu is gaining a broad range of practical and analytical skills in what is a relatively new area of research for her. She is also learning about the requirements for handling biological and medical samples for analysis. She can already operate all of the instrumentation independently and her knowledge of the data analysis side of her work is impressive.'

Professor Andrew Ellis, Supervisor



Image courtesy of University of Leicester

Fellows finishing in 2013

DR REYNA AL-ASHAAB
Cranfield University / NERC

SUBJECT Pollution Studies
TODAY Looking for work

DR JACKIE FERGUSON
NIBSC / BBSRC

SUBJECT Molecular Biology
TODAY Permanent full-time research position at NIBSC

DR JOANNA GEDEN
University of Warwick / EPSRC & University of Warwick

SUBJECT Synthetic Chemistry
TODAY Fixed-term full-time research position at University of Warwick

MRS JANET HARWOOD
Cardiff University / BBSRC

SUBJECT Bioinformatics
TODAY Fixed-term research continuation and completing a PhD

DR MODUPE JIMOH
Loughborough University / Loughborough University & EPSRC

SUBJECT Chemical Analysis
TODAY 18 months research position at University of Nottingham

DR TZANKA KOKALOVA
University of Birmingham / STFC

SUBJECT Nuclear Physics
TODAY Full-time research fellow at University of Birmingham

DR SOLVEIGH LASS-EVANS
British Geological Survey / NERC

SUBJECT Geochemistry
TODAY Fixed-term part-time research position at British Geological Society

DR MORAG MASKEY
Newcastle University / Newcastle University

SUBJECT Psychology
TODAY 2 year NIHR funded research continuation

DR ALLEN MSWAKA
Queen's University, Belfast / BBSRC

SUBJECT Microbiology
TODAY Lecturer at Central College, Nottingham

DR NAHLA OMER AHMED EL TAI
University of the West of England, Bristol / University of the West of England, Bristol

SUBJECT Microbiology
TODAY Fixed-term part-time research continuation

DR FRANCES PEARL
Institute of Cancer Research / MRC

SUBJECT Bioinformatics
TODAY Tenured lectureship at University of Sussex

DR MALARVIZHI RAMESH
University of Reading / BBSRC

SUBJECT Microbiology
TODAY Unfunded research continuation

DR MIRANDA SMALLWOOD
Peninsula Medical School / Peninsula Medical School & MRC

SUBJECT Biochemistry
TODAY Fixed-term part-time research position at Peninsula Medical School

MRS REBECCA WARD
University of Cambridge / RAEng

SUBJECT Civil Engineering
TODAY Fixed-term part-time research position at University of Cambridge



Dr Reyna Al-Ashaab



Dr Jackie Ferguson



Dr Joanna Geden



Mrs Janet Harwood



Dr Modupe Jimoh



Dr Tzanka Kokalova



Dr Solveigh Lass-Evans



Dr Nahla Omer Ahmed El Tai



Dr Frances Pearl



Dr Malarvizhi Ramesh



Dr Miranda Smallwood



Mrs Rebecca Ward



DR ALLEN MSWAKA

Understanding environmental microbes

Dr Allen Mswaka was a successful researcher and lecturer in microbiology in Zimbabwe before he had to leave due to instability in the country. He relocated to the UK with his family, but could not get a scientific position due to visa restrictions.

During his six year career break Allen kept abreast of developments in his field, working on and publishing two peer-reviewed papers. After his visa restrictions were lifted, he needed to update his skills in molecular based techniques and improve his understanding of emerging areas such as systems biology.

Allen is studying saprotrophic microbes that are vital for the function and stability of our natural ecosystem and can be used in diverse industrial processes such as waste degradation and industrial biocatalysis. These microbes need very particular conditions to function effectively and, during his Daphne Jackson Fellowship at Queen's University, Belfast, Allen studied how small changes to environmental conditions influence their growth and activity.

Although Allen quickly realised that much had changed in his research field during his career break, his supervisor Dr John Hallsworth was aware of the challenges he would face and gave clear guidance and support. Allen participated in a number of activities in addition to his research, including writing research articles and grant proposals, and teaching.

'All these activities have helped to boost my confidence and to build an optimistic view of my future prospects in research and academia. The Daphne Jackson Fellowship has given me the chance to re-discover my passion for science and to experience the cutting-edge of my field.'

Since successfully completing his Fellowship, Allen has published his research and secured a position as a Higher Education Lecturer in Microbiology (Medical & Forensic) in the School of Science at Central College Nottingham, where he plans to continue his research and develop further collaborations alongside his teaching.



DR MORAG MASKEY

Overcoming anxiety in Autism Spectrum Disorder (ASD)

Dr Morag Maskey initially trained as an environmental engineer and worked as a consultant before moving into teaching and working part-time whilst bringing up two young children. When her third child was born in 2004 she decided to take a career break. But a few years later when her youngest son was diagnosed with autism, Morag became interested in the neuroscience of ASD and how interventions can benefit children and families.

At that time, Morag lacked relevant research experience and couldn't compete for research posts in the autism field. She approached Professor Helen McConachie and Dr Jeremy Parr, Clinical Senior Lecturer at University of Newcastle, who offered her a position as a volunteer in the autism research team. This taste of autism research confirmed to Morag that she wanted to continue in this field, and to help her return and retrain, she applied for a Daphne Jackson Fellowship.

Anxiety disorders affect half of young people with ASD. Gradual exposure to the object

of a phobia can help, but must be adapted to each individual. One possible solution is the use of virtual reality environments (VREs) that allow participants to become active within a computer generated 3D virtual world. Participants navigate through a situation they find anxiety provoking (e.g. a street or school) and with therapist support, learn new skills to manage their anxiety.

Morag investigated whether using a cognitive behaviour therapy (CBT) approach combined with an 'immersive VRE' could reduce specific phobia or fear in young people with ASD, and whether in turn this could lead to functional improvements in managing real life anxiety provoking situations.

The results were conclusive - 8 out of the 9 children recruited to the study benefited from the treatment, and within six weeks of the final VRE session, were able to tackle their target situation in real life. Four of the children completely overcame their phobia, and at 6 months post treatment, improvements in target behaviours were maintained or

'We are delighted that Morag's Daphne Jackson Fellowship has given her the opportunity to re-enter the research environment and it sounds as though this has led to very good future opportunities for her. Thank you very much for enabling this.'

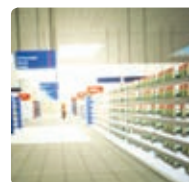
Johanna Gascoigne-Owens, Research Funding Development Manager, Sponsor, Newcastle University

improved in all cases. Morag has now secured funding for a follow-on study which will research this intervention in a larger group of children with autism, including patients referred from the NHS.

For Morag, the Daphne Jackson Fellowship has armed her with the skills, confidence and track record necessary to enter autism research. It has given her practical experience of working with children with autism and their families, and allowed her to undertake a demanding project while maintaining her family commitments.

'I have never wavered from the belief that returning to academia – and in particular the area of autism research – was the right decision. During the Fellowship I have been able to make a valuable contribution to the growing body of autism research that is being carried out worldwide.'

Dr Morag Maskey, Newcastle University



Scenes from a virtual reality room used to reduce anxiety in young people with autism

Enduring partnerships

The Daphne Jackson Trust and the University of Surrey

The University of Surrey has been home to the Daphne Jackson Trust since it was founded in 1992 following the death of Professor Daphne Jackson, Professor of Physics and Dean of the Faculty of Science at the University. Professor Jackson was a distinguished physicist and a lifelong campaigner, encouraging women into engineering and science.



Dr Katherine Rooke
Fellowship Advisor

Dr Imane Strudwick
Current Daphne Jackson Fellow

Mrs Elaine Hunt
Administrator

Professor Nicholas Spyrou
Supervisor

Professor Jonathan Seville
Dean of Faculty of Engineering and Physical Sciences

Professor Sir Christopher Snowden
President & Vice-Chancellor of the University of Surrey, Patron of the Daphne Jackson Trust

Dr Katie Perry
Chief Executive

Professor Margaret Rayman
Former Fellow, Supervisor and former Trustee

Dr John Rayman
Course Facilitator

Dr Bernadette Egan
Former Daphne Jackson Fellow

Dr Priti Chivers
Former Daphne Jackson Fellow

Dr Caroline Cross
Communications and PR Manager



Professor Daphne Jackson (front row, second from left) at the 1984 launch of WISE (Women into Science and Engineering)

Daphne Jackson was the UK's first female physics professor and in 1985 she devised a pilot fellowship scheme for returners at the University of Surrey. The scheme helped individuals get back to their chosen careers after a break to have a family, care for elderly relatives, or because of their partner's relocation. Following her untimely death in 1991, the Daphne Jackson Trust was established to continue Daphne's inspired work.

Four Daphne Jackson Fellows who returned to research in the early years of the Trust have since become professors in UK universities. Professor Margaret Rayman is one of them and continues her research at the University of Surrey today.

Margaret is now Professor of Nutritional Medicine at the university and developed and directs the MSc Programme in Nutritional Medicine. Her research centres on the importance of trace elements in diet and human health.

'As a pioneering researcher in nuclear physics and a champion for women in science and engineering, Daphne Jackson contributed greatly towards raising the University's reputation in this field. The need for highly qualified and skilled scientists and engineers has not diminished and as Chair of the Daphne Jackson Trust 2005 to 2009, I was delighted to witness a steady increase in the number of Fellowships awarded.

Daphne Jackson Fellowships require an enormous amount of commitment and dedication on the part of the returner. This is matched only by the level of support offered by the hard work and dedication of the Trustees and staff. The University of Surrey is proud to be associated with such an important legacy.'

Professor Sir Christopher Snowden, President and Vice-Chancellor, University of Surrey and Patron of the Daphne Jackson Trust

She was a Trustee of the Daphne Jackson Trust between 2005 and 2013, during which time she made a valuable contribution to the Trust's governance and helped promote women in STEM careers. She also supervised Daphne Jackson Fellows including Dr Priti Chivers (DJ Fellow '10-'12), who continues her research in the School of Biosciences and Medicine, Faculty of Health & Medical Sciences at the University.

Dr Bernadette Egan also successfully returned to research at Surrey with a Daphne Jackson Fellowship and in 2002 joined the Food, Consumer Behaviour and Health Research Centre, in the Department of Psychology as a Research Fellow.

As the Daphne Jackson Trust enters its third decade, the importance of maintaining a diverse and talented STEM workforce is becoming ever more evident, and the number of returners the Trust helps continues to grow. At the University of Surrey, two Daphne

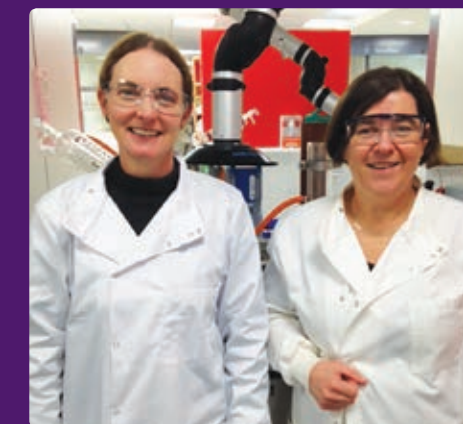
Jackson Fellows are currently in post - Dr Imane Strudwick (Department of Physics, with additional sponsorship from EPSRC) and Dr Sianne Schwikkard (Department of Chemistry, sponsored by the Royal Society of Chemistry). And with support from Professor Jonathan Seville, Dean of Faculty of Engineering and Physical Sciences, another Fellow will shortly be joining the University.

'Many people at the University of Surrey have made valuable contributions to the Trust's work. In particular, the Vice-Chancellor, Professor Sir Christopher Snowden is an un-erring supporter and was Chair of Trustees (2005-2009). He is now a Patron of the Trust, and we are extremely grateful to him, and the University of Surrey, for the generous support they provide in hosting us in the Physics Department and providing ongoing IT and website support.'

Dr Katie Perry, Chief Executive

Returning to Chemistry at Surrey

Dr Sianne Schwikkard is returning to research at the University of Surrey, with a Daphne Jackson Fellowship, sponsored by the Royal Society of Chemistry. She will be isolating chemical compounds called homoisoflavonoids from a group of plants called the Hyacinthaceae and testing them for biological activity. Those compounds that show potential will then be tested for their anti-cancer, anti-inflammatory and anti-viral activity, as well as for their ability to treat degenerative eye diseases.



During the fellowship Sianne will update her skills in sensitive spectroscopy techniques and separation methods, positioning her to take on independent research at the end of the project.

Professor Dulcie Mulholland, Head of the Chemistry Department and Sianne's principal supervisor says 'I am delighted that Sianne has joined us. She is a very talented person and this is a wonderful opportunity for her to get back into her scientific career.'

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