

THE DAPHNE JACKSON TRUST IN 2014



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The Daphne Jackson Trust in 2014

2014 has been a dynamic year for the Daphne Jackson Trust. I have now been Chief Executive for four years and this year I am pleased that the changes I have introduced have been consolidated, giving us a firm foundation from which to move forward and support an ever increasing number of returners.

This year twenty four new Fellows began their journey back to research, and many more successfully completed their Fellowships and are now back on their chosen career path. This record number of new Fellows meant that during the year, we had up to 52 Fellows in post at any one time in universities throughout the UK and we are extremely grateful to all the sponsors and host institutions that made this possible.

During the year we focused on developing a communications framework and published our mission statement and vision for the first time.

‘We are the UK’s leading organisation dedicated to realising the potential of scientists and engineers returning to research following a career break.’

The leading role we play in supporting returners was recognised in November 2014 when the Trust won the WISE Leadership award. This recognition highlights the importance of supporting women and men returning to their careers after a career break, something that is finally resonating at policy level across all areas of STEM, in government, academia and industry.

There has been an upsurge of interest and commitment to equality and diversity issues and increasing numbers



Dr Katie Perry receiving the WISE Leadership Award in November 2014

of universities, research institutes and departments are signing up to the Athena SWAN Charter. Many stakeholders recognise that Daphne Jackson Fellowships can play an integral part in their efforts to improve equality and diversity in their workforce.

Here at the Trust, we continue to extend our reach and work by contributing to advisory groups run by organisations such as the Society of Biology, the Biochemical Society and the Royal Society to develop and support best practice for returners and for ensuring diversity in the STEM workforce. We also carried out a feasibility study, supported by the Department for Business, Innovation & Skills (BIS), to investigate whether or not Daphne Jackson Fellowships could be adapted for industry.

As 2014 drew to a close, we said goodbye to our chair, Professor Dame Glynis Breakwell. We are extremely grateful to Dame Glynis for her insight and enthusiasm for the Trust and we are delighted to welcome our new Chair, Dr Teresa Anderson MBE, Director of the Jodrell Bank Discovery Centre. I am delighted that what we have achieved during 2014 is helping to bring us closer to realising our vision of seeing every UK university sponsoring and hosting Daphne Jackson Fellows, and I am very grateful to all those who are helping us on our journey.

Katie Perry

Dr Katie Perry, Chief Executive, Daphne Jackson Trust

From application to award

The Daphne Jackson Trust is a unique organisation that offers an unparalleled level of advice and support to candidates from their first contact with the Trust, during the application and award process, and onwards through the Fellowship.

To ensure we convey this message clearly we have developed a communications framework that includes our mission, vision, aims and values. The document can be downloaded from our website.

This year we expanded our staff team to include the post of Trust Manager. Dr Karen McGregor was appointed to the role in September and currently works 3 days a week. Karen is reviewing our processes and ensuring that we maximise opportunities to support our Fellows. We also welcomed a new Trust Administrator, Ms Haritha Pattabhi, in November who coordinates and administers Fellowship applications and enquiries.

The preliminary application phase for a Fellowship involves an iterative process between candidate and Fellowship Advisors. Once the Advisors are happy for an application to proceed and funding is in place, a formal application is invited. Once applications have been peer-reviewed, they are considered by an Awards Assessment Panel that

reviews applications four times a year. The panel is made up of independent experts from a diverse range of STEM research disciplines. During 2014 members of the Awards Assessment Panel considered 26 full applications of which 25 were awarded. Also in 2014, as part of our drive to ensure we meet best practice in our awards process, an Awards Strategy Committee was established, chaired by Professor Rob Eason.

Professor Eason is one of our dedicated team of Trustees who as individuals contribute a great range of expertise to our governance, and who collectively ensure our award processes remain rigorous and fair. Following the resignation of Professor Dame Glynis Breakwell, our Chair at the end of 2014, we are delighted to welcome Dr Teresa Anderson MBE, Director of the Jodrell Bank Discovery Centre who will see that the many positive changes made to the Trust in recent years become the foundation for future developments.

New Chair of Board of Trustees



Dr Teresa Anderson, incoming Chair of Board

Q&A TERESA ANDERSON

As Chair of Board, what contributions do you hope to make to the success of the organisation?

The Trust has made some very positive changes over the last few years so my first task will be to support the consolidation of these as a foundation for future developments. The organisation also has some high aspirations for widening its impact and I hope to be able to support it in taking these forward.

What are you most looking forward to about taking on this role?

I'm passionate about equality and diversity in science and engineering. I'm looking forward immensely to ensuring that we keep as many talented scientists and engineers as possible working in research in the future.

Why do you think the Trust's work is important?

The Trust carries out an essential task in enabling highly skilled and qualified women and men to return to a career in STEM research after a break. Many initiatives promote diversity in the STEM research workforce by encouraging young people to choose STEM subjects and careers. It seems obvious now, but it was visionary of Daphne Jackson to realise that initiatives are also needed to support diversity at other stages of a research career. The Trust provides exactly this type of support, and is important in demonstrating that it is possible for the UK to retain a diverse and talented workforce in STEM research.

At the end of 2014 we recruited a new Chair of Board. We are delighted that Dr Teresa Anderson MBE, Director of the University of Manchester's Discovery Centre at Jodrell Bank took up the post in March 2015.

Teresa is an experienced leader and manager with a strong background in physics and electrical engineering. She has also spent many years working in science policy and engagement with organisations such as NESTA and Practical Action.

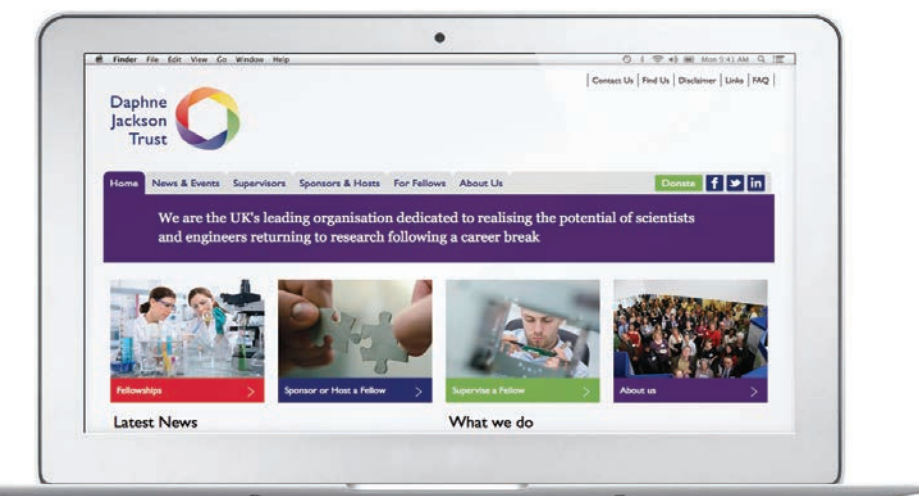
Her deep personal commitment to supporting a wide range of people in realising their potential in science and engineering, and her experience as Chair of the Board of Trustees of the UK Association of Science and Discovery Centres (ASDC) make her an ideal person to lead the Trust forward and achieve its aims.

The Daphne Jackson Trust aims to:

- enable women and men to return to research with confidence after a career break
- maintain a talented STEM workforce by offering flexible Fellowships
- support equality and diversity in the workplace
- develop partnerships that extend the reach and increase the impact of the work of the Trust.

'The organisation also has some high aspirations for widening its impact and I hope to be able to support it in taking these forward.'

Dr Teresa Anderson, MBE
Daphne Jackson Trust Chair of Board



The Daphne Jackson Trust's vision is for every UK university and research institution that supports STEM research to host and sponsor Daphne Jackson Fellows on an ongoing basis.

Assessing Fellowship applications

The application process for a Daphne Jackson Fellowship is unlike any other in the sector.

The application process itself helps applicants prepare for the reality of a research career and helps rebuild their self confidence.

In 2014, to help ensure the Trust operates in a transparent, fair and effective manner, an Awards Strategy Committee, chaired by Trustee Professor Rob Eason, was established.

The committee also helps the Trust negotiate its way through changes in funding opportunities and regulations. All decisions, policy and strategy developments made by the committee are ratified by the Board of Trustees.



Each eligible Fellowship enquirer is designated a named Fellowship Advisor, who offers support and mentoring throughout the application process and beyond.

Q&A

PROFESSOR ROB EASON



Professor Rob Eason, Chair of the Awards Assessment Panel and Award Strategy Committee

What does your role as Chair of the Awards Assessment Panel entail?

I oversee every application for a Fellowship that has progressed to the final stages of award. I assess each application, discuss any matters of concern with the Fellowship Advisor, rank each proposal and then make a judgment on whether the Fellowship should be awarded based on an aggregate ranking from the six independent assessors selected from the Awards Assessment Panel who score each application. This can be a

straightforward process, but there are occasions when concerns are expressed by the technical referees, the Fellowship Advisors or members of the Awards Assessment Panel, and in these cases the applicant is usually asked to attend an interview when they can further discuss specific points. Finally, I approve and sign off on all award offers.

How is the Awards Strategy Committee working to develop best practice in the Fellowship awards process?

During the last year or two, the Awards Strategy Committee has carefully considered revisions to the Trust regulations regarding eligibility and suitability for the scheme. We have now developed a definitive set of guidelines which makes it quite clear what employment applicants can have undertaken, and still be eligible under the rules of the Trust. Fellowship Advisors are now able to make much faster and more transparent decisions during the early stages of an application. We view this as a great improvement to the application process.

‘Seeing how a Fellowship award can transform someone’s life from a position where they are struggling to return to work following a break, to finding a position back in research, industry, or another sector, is a real joy and incredibly rewarding.’

Listening to our stakeholders

In December 2014, the Trust held a networking event in partnership with the Royal Society of Chemistry that was attended by 60 delegates.

During structured networking sessions delegates were able to find out more about the application process for Daphne Jackson Fellowships and hear first hand from sponsors, supervisors and current and former Fellows, exactly what benefits a Daphne Jackson Fellowship can bring.

During discussions, several themes emerged for how the Trust might increase its impact and better support Fellows and these are now being considered by our Trustees and if agreed, will be implemented by our staff team.



Structured networking at the ‘Elements of a successful return to chemistry’ event held in partnership with the RSC. © Stephen Lake / Royal Society of Chemistry



Trust Manager joins the team

Karen McGregor joined as Trust Manager in September 2014.

Karen will use her experience of working in the Higher Education sector and for the Society for General Microbiology to ensure opportunities to support our Fellows are maximised.

What do you enjoy most about your job?

I really enjoy talking to the Fellows. They are all so committed and enthusiastic and that always rubs off on me. I feel inspired about the Trust’s work and am pleased that as we go in to 2015 we already have new sponsored Fellowship opportunities in the pipeline.

What do you think is unique about the way we handle applications at the Daphne Jackson Trust?

Since joining the Trust, my ‘behind the scenes’ viewpoint has allowed me to see how much thought has gone into the application process and how it benefits the applicants. I really believe that our unique approach gives the applicants time to think about what they are going to do with their Fellowship and that this is a key element of the high success rate post-Fellowship. I’m also hugely impressed with the checks and fine-tuning of the process that are in place to meet the changing needs of the UK research environment.

THE DAPHNE JACKSON TRUST APPLICATION TIMELINE

Eligibility check
2 - 4 WEEKS

Initial enquiry
Eligibility and suitability check

Preliminary application phase
3 - 6 MONTHS

Develop and revise draft proposal
Funding secured
Invitation to apply

Formal application phase
UP TO 6 MONTHS

Interview
Submit final proposal
Peer review of proposal
Award Assessment Panel
Fellowship approved

Trustees, Committee Members and Staff

TRUSTEES

Dr Teresa Anderson
(from March 2015, incoming Chair)
Professor Dame Glynis Breakwell
(until November 2014, outgoing Chair)
Professor Rob Eason
Professor Dame Julia Goodfellow
(until September 2014)
Mr Philip Greenish
Ms Wendy Harle
Professor Karen Hassell

Professor Nigel Mason
Dr Mary Phillips
Mrs Janet Purnell
Professor Sibel Roller
Mr Richard Rooley
(until April 2014)
Professor Ted Smith
Dr Carole Thomas
Professor John Wood

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Professor Athene Donald
Ms Vivienne Parry
Ms Maggie Philbin
Professor Sir Christopher Snowden

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Dr Caroline Cross *Communications & PR Manager*
Dr Nicky Evans *Fellowship Advisor*
Mrs Elaine Hunt *Administrator*
Dr Helen Marsh *Fellowship Advisor*
Dr Karen McGregor *Trust Manager*
Dr Pia Ostergaard *Advisor*
Ms Haritha Pattabhi *Trust Administrator*
Dr Katie Perry *Chief Executive*
Ms Bina Preston *Finance Manager*
Dr Katherine Rooke *Fellowship Advisor*

FINANCE & GENERAL PURPOSES COMMITTEE

Dr Caroline Cross
Professor Rob Eason
Dr Liz Elvidge
Ms Wendy Harle *(Chair)*
Dr Katie Perry
Dr Mary Phillips
Mrs Bina Preston
Mrs Janet Purnell
Professor Ted Smith
Professor John Wood

AWARDS STRATEGY COMMITTEE

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Dr Liz Elvidge
Dr Nicky Evans
Dr Helen Marsh
Dr Pia Ostergaard
Dr Katie Perry
Dr Katherine Rooke
Dr Carole Thomas
Professor Nicola Woodroffe

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Dr Sue Bird
Dr Clare Buckee
Dr Sophie Duport
Professor Rob Eason
Dr Liz Elvidge
Professor Gillian Gehring
Professor Nigel Mason
Dr Suman Rice
Professor Sibel Roller
Professor Ted Smith
Dr Carole Thomas
Professor Nicola Woodroffe

Fellows retrain and return

The Trust provides a unique blend of support and advice that ensures all Daphne Jackson Fellows rebuild the confidence and refresh professional skills that help them successfully return to research. Fellows are returning to all areas of STEM and the novel research they undertake ranges from astrophysics to nanotechnology, and genetics to nutrition.

In 2014 we received enquiries from 294 potential returners. Four out of ten of them were eligible to apply for a Fellowship. One in nine eligible enquirers was male. Twenty four Fellows began their Fellowship during 2014, whilst a further 20 went on to their second year, and 12 successfully completed their Fellowship.

During the Fellowship, each Fellow attends training courses arranged by the Trust. In 2014, four courses were available; professional skills, media and PR skills, work-life balance and presentation skills. Each course is designed to give Fellows practical advice and training to aid their transition back to a research career. The day long workshops also provide valuable opportunities for Fellows to network with others at differing stages of their Fellowships.

Many of the connections and networks Fellows build as they return to research are long-lasting and far-reaching. It is testament to their enthusiasm and commitment that we see current and former Fellows supporting incoming Fellows and championing the Fellowship scheme itself, and inspiring the next generation with science and engineering.

In 2014 the Daphne Jackson Trust supported two networking events organised in partnership with other organisations including the Royal Society of Chemistry. These events, one of which was co-organised by a current Daphne Jackson Fellow, gave Fellows opportunities to network with others in their chosen field and to share personal experiences with other returners. The events also helped the Trust broaden its reach and engage new audiences with its work.

Fellows connect at British Science Festival, Women in Science & Engineering event

In September 2014, the Daphne Jackson Trust in partnership with the Royal Society of Chemistry sponsored a Women in Science & Engineering networking event at Birmingham University as part of the British Science Festival.

The event was co-organised by Daphne Jackson Fellow Dr Margaret O'Hara and colleagues at Birmingham University and was intended to provide a space for women in science and the media to meet each other and network.

Approximately 140 people (mainly women) participated, including science journalists, members of the public and several current and former Daphne Jackson Fellows, including Dr Liz Parvin one of the Trust's first Fellows. Members of Trust staff opened the event and were on hand to answer questions from delegates.

'Feedback on the night from delegates and sponsors was very positive,' said Margaret. 'In addition, organising this event has helped to raise my profile within the School of Physics and the College of Engineering and Physical Sciences and given me additional outreach experience. Working with the British Science Festival team was a skill-enhancing experience and has been invaluable for establishing contacts which may be useful in the future.' She said.



One of the Trust's first Fellows, Dr Liz Parvin, senior lecturer at the Open University, chats to current Fellow Dr Srisivane Sivanesan.

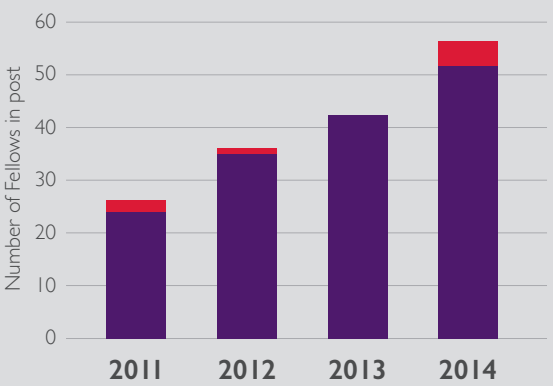
'We were overwhelmed by the number of people attending the event. The room was packed and buzzing with conversation.'

Dr Margaret O'Hara, DJ Fellow



DJ Fellow Dr Margaret O'Hara encouraged delegates to add their profile to an online bulletin board to facilitate networking during and after the event.

Increasing number of Fellows in post



Year on year we have seen a steady increase in the number of Daphne Jackson Fellows in post at Universities around the UK.

In 2014 there were up to 52 Fellows in post at any one time. Most are women who have taken a career break to care for young children or other family members. We are however, seeing an increasing number of male applicants and we were delighted to place 4 male Daphne Jackson Fellows during 2014.

KEY H HOST S SPONSOR

DR HANADI HASSAN-NIXON
H IMPERIAL COLLEGE, LONDON
S Imperial College, London / EPSRC

DR BATOOL AHMED-OMER
H UNIVERSITY OF CAMBRIDGE
S University of Cambridge

DR LI LIU
H UNIVERSITY OF LEICESTER
S University of Leicester/
Royal Society of Chemistry

DR BRENDAN GARRETT
H UNIVERSITY OF YORK
S University of York/
Royal Society of Chemistry

DR MARINA PTUSHKINA
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S MRC

DR RURAMAYI NZUMA-MSWAKA
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S BBSRC

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S NERC

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H UNIVERSITY OF KENT
S University of Kent

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S University of Huddersfield / EPSRC

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H ROYAL BOTANIC GARDENS, EDINBURGH
S NERC

DR DEBRA FREDERICKSON MATIKA
H UNIVERSITY OF EDINBURGH
S University of Edinburgh / BBSRC

DR SARAH BUCKLAND
H UNIVERSITY OF SHEFFIELD
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S University of Sheffield / BBSRC

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H UNIVERSITY OF GLASGOW
S Medical Research Scotland

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H KINGS COLLEGE LONDON S RAEng

DR DIVYA TIWARI
H CRANFIELD UNIVERSITY
S RAEng

DR WENYE TIAN
H NEWCASTLE UNIVERSITY
S Newcastle University

DR JOSEPHINE MMOJIEJE
H ASTON UNIVERSITY
S Aston University

DR HELEN CORNWELL
H UNIVERSITY OF BATH
S University of Bath / RAEng

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H UNIVERSITY OF LEEDS
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S EPSRC

DR DIMITRA KOSTA
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S Oxford Brookes University / EPSRC

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DR KIM WOODRUFF
H UNIVERSITY OF MANCHESTER
S Leverhulme Trust/
The Physiological Society

DR SHEILA FLANAGAN
H UNIVERSITY OF CAMBRIDGE
S University of Cambridge

DR RACHEL WHITE
H UNIVERSITY OF ABERDEEN
S University of Aberdeen

DR MARY BOARD
H UNIVERSITY OF OXFORD
S Make My Day Better

DR CAROLINE SCOTT
H UNIVERSITY OF OXFORD
S University of Oxford / MRC

DR HILARY KAY
H UNIVERSITY OF MANCHESTER
S Royal Astronomical Society /
University of Manchester

DR PALAT USHASREE
H NORTHUMBRIA UNIVERSITY
S Northumbria University

DR MATT NORTH
H UNIVERSITY OF SURREY
S STFC

DR ANKE HUSMANN
H UNIVERSITY OF CAMBRIDGE
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DR IMANE STRUDWICK
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DR ANITA DAWES
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S OU / STFC

DR JOHANNA JARVIS
H OPEN UNIVERSITY
S OU / STFC

DR MARIA MARCHA
H UNIVERSITY COLLEGE LONDON
S Royal Astronomical Society

DR JULIAN DANIELS
H UNIVERSITY OF HULL
S University of Hull / EPSRC

DR MARGARET O'HARA
H UNIVERSITY OF BIRMINGHAM
S University of Birmingham / EPSRC

DR NOKUTHULA DUBE
H IMPERIAL COLLEGE, LONDON S RAEng

Fellows
in post
during 2014

Regional
locations
of our Fellows

Two thirds
of UK universities
that support STEM research have
hosted and/or sponsored a Fellow

BIOLOGICAL SCIENCES

CHEMISTRY

COMPUTER SCIENCES

ENGINEERING

ENVIRONMENTAL SCIENCES

MATHEMATICS

MEDICAL SCIENCES

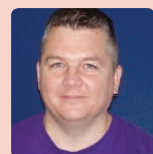
PHYSICS

Stellar research

The research Daphne Jackson Fellows return to spans all areas of science, engineering, technology and maths.

Thanks to sponsorship from the Open University, Royal Astronomical Society and Science and Technology Facilities Council (STFC) four of our Fellows are returning to astrophysics, with a fifth returning to this exciting and expanding discipline at the beginning of 2015.

Here we summarise their research and highlight how Daphne Jackson Fellows contribute to the wider sphere of STEM research.



Dr Matt North is returning to research at the University of Surrey, with a Fellowship sponsored by the STFC. His research into a subset of massive stars known as 'runaway' stars considers their origins through to their final resting place.

Runaway stars have high velocities obtained via gravitational interactions with binary stars or by their release from a binary system when their companion star explodes in a supernova. As a result of their high velocities these stars can travel vast distances before they themselves explode. Along their route through space, solar materials such as heavy elements are ejected, providing the

building blocks for life. Understanding the environments from which they form and how far these massive stars travel before their own catastrophic supernova demise will shed more light on star formation generally, the enrichment of the inter-stellar medium, and inform cluster and galaxy evolution modelling.



Stars end their lives in dramatic fashion. As the main fuel source at the centre of the star runs out,

the star undergoes rapid changes which ultimately lead to its death. In some cases, residual helium within the star suddenly re-ignites producing born again stars. Dr Hilary Kay, a

Fellow at the University of Manchester, sponsored by the Royal Astronomical Society, is particularly interested in an old star within our Galaxy called Sakurai's Object which underwent a helium re-ignition prior to 1996. Changes in the brightness, temperature and composition of Sakurai's Object are happening incredibly quickly (over a number of years). Studying this dynamic stage of stellar evolution will provide insight into both the final evolution of solar-mass stars and the possible fate of the Sun itself.

< Image of the centre of the Tarantula nebula. The Tarantula nebula is approximately 170,000 light years from our solar system. NASA, ESA, and E. Sabbi (ESA/STScI) Credit: R. O'Connell (University of Virginia) and the Wide Field Camera 3 Science Oversight Committee

Cells: the LEGO of life

In 2014 Daphne Jackson Fellow Dr Caroline Scott (University of Oxford, sponsored by the MRC) was awarded £500 by the Biochemical Society to conduct an outreach project, entitled 'Cells: the LEGO of Life'.



Caroline's research is focusing on how blood cells are generated and she designed a workshop for 9-10 year old children using child friendly materials to study different aspects of human blood cells. More than 90 children attended the workshops where they made plant and animal cells

using plastic cups and bags, with jelly cytoplasm and marshmallow nuclei. They also made blood from ketchup, mayonnaise and olive oil and discussed how blood is made up of different cell types. Dressed in labcoats, gloves and goggles, the children got a taste of what it is like to be a scientist, using pipettes and measuring liquids to add to the experience.

'The children (and staff) were really engaged with the activities on the day and they definitely grasped some basic concepts about cells. Most importantly, the children felt that science is fun.'

Dr Caroline Scott, DJ Fellow

Former Fellow supports future returner to improve patient safety

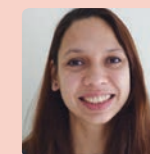


Over 2 million people in the UK take beta-blockers to control high blood pressure, but for someone who also has asthma, beta-blockers can have serious side-effects.

GPs are careful to look at a patient's history before prescribing the medications, but on rare occasions there is a prescribing error.

Jill Stocks (DJ Fellow '04-'07) is using information collected from patients through their GPs over the last 20 years to identify where prescribing errors might have happened. She hopes that in future patients at-risk will be identified and their treatment checked. Her work forms part of a large programme of research funded by the National Institute for Health Research (NIHR) exploring patient safety in primary care and public involvement in research.

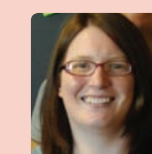
Jill is passionate about her work and says, 'Prescribing errors in primary care cause significant harm. Adverse drug events that account for more than 1 in 20 hospital admissions. Half of these are preventable'. Jill is now keen to help someone else return to STEM research and will be supervising a Daphne Jackson Fellow, sponsored by the NIHR Greater Manchester Primary Care Patient Safety Translational Research Centre, when the patient safety team expands later this year.



The space between the stars - the inter-stellar medium (ISM), is filled with gas, dust and radiation, and the interplay between them gives rise to a rich chemistry that drives the continuous cycle of stellar birth, evolution and death. Star formation

begins in the coldest extremes of the ISM, where almost all atoms and molecules 'freeze-out' onto dust, forming ice. Chemical reactions in the ice produce progressively more complex molecules. These remain locked into the ice until temperatures rise during the gravitational collapse that leads to star formation. There are also additional complex mechanisms that unlock molecules from ices without any heating.

Dr Anita Dawes, a DJ Fellow at the Open University, sponsored by the OU and STFC, is performing astrochemistry experiments that simulate interstellar ices in dense clouds to study the processes that cause certain molecules to desorb from the ice surface. Understanding these mechanisms will shed light on mechanisms of star formation.



In the last 20 years nearly 2000 planets orbiting stars outside our Solar System have been detected however the discovery and confirmation of yet more of these 'exoplanets' is paramount to our understanding of the formation of planetary systems and our own Solar System.

Dr Johanna Jarvis, who is returning to research with a DJ Fellowship jointly sponsored by the Open University and STFC, is using a remotely operable telescope facility to confirm whether the reduction in observed light from a star is caused by the transit of an exoplanet. Part of her work is to automate and thereby improve the efficiency of the Open University's Physics Innovations Robotic Astronomical Telescope Explorer (PIRATE) facility and increase the number of planets it can confirm. She is also using this facility to follow up on the numerous transient, and often never before seen, objects detected by the recently launched Gaia satellite which is surveying a billion luminous objects in our Galaxy.

Partnerships in action

The Trust relies on ongoing partnerships with universities and sponsoring organisations to support returners. We also rely on donations from individuals and organisations that support our work in reaching out to potential returners and to help us to develop and improve the mechanisms we use to support our Fellows.

In August we welcomed representatives from the Motorola Solutions Foundation, one of our major donors, to our offices at the University of Surrey. Whilst here, Matt Blakely and Graeme Hobbs were able to see our scheme in action, when Daphne Jackson Fellow Sianne Schwikkard and her supervisor Professor Dulcie Mulholland gave them a tour of the newly refurbished chemistry labs, and discussed the merits of the Fellowship scheme.

We are delighted that this year many new sponsoring organisations have come on board and will be sponsoring or hosting Fellowships in the future. Like many of our existing sponsors, several

have agreed to sponsor more than one Fellow, and on an ongoing basis. In particular our partnerships with the Royal Society of Chemistry, University of Sussex and Medical Research Scotland have been cemented and we are delighted that the five research councils within RCUK that support STEM research continue to support 4 out of 10 Fellows.

It is these partnerships that ensure that all eligible and suitable candidates wishing to return to research after a career break of two or more years will have the opportunity to do so with a Daphne Jackson Fellowship.

Sharing best practice

In August 2014, our Chief Executive Katie Perry, chaired a panel discussion at the International Conference of Women in Engineering & Science in Los Angeles on best practice in returning women to STEM careers.

Representatives from two of our partners - Sheena Elliott from the Royal Society of Chemistry and Anu Khera from Motorola Solutions Foundation - joined Katie on the panel together with Carol Fishman Cohen, Director of IRelaunch, a US organisation supporting women returning to STEM industries. Over 60 delegates attended the session where the panel answered questions on a number of issues that returners face including access to professional networks, loss of self-confidence and childcare costs.



International Conference of Women in Engineering and Science, Los Angeles, 2014 where Chief Executive Katie Perry chaired a panel discussion on best practice in supporting returners to STEM.

From left to right: Dulcie Mulholland, Caroline Cross, Mary Phillips, Graeme Hobbs, Katie Perry, Matt Blakely, Sianne Schwikkard & Gillian Forrester



Motorola Solutions Foundation visit to the Trust

Matt Blakely, Director of the Motorola Solutions Foundation, and Graeme Hobbs, Chairman of Motorola Solutions UK, visited the Trust offices at the University of Surrey, and enjoyed a tour of the University's newly refurbished chemistry labs.

The visit was an opportunity for Matt and Graeme to meet Trust staff and also Daphne Jackson Fellow Dr Sianne Schwikkard and her supervisor Professor Dulcie Mulholland. The group were given a tour of newly refurbished laboratories, where Sianne and colleagues are exploring the medicinal properties of compounds isolated from plants. The visitors also met former Daphne Jackson Fellow Dr Gillian Forrester, a senior lecturer at the University of Westminster, and Daphne Jackson Trustee, Dr Mary Phillips.

The Motorola Solutions Foundation has generously supported the Trust's work for the last 11 years.

'The Motorola Solutions Foundation supports a wide range of charitable causes relating to STEM education, in many different countries, but the Daphne Jackson Trust is the only one that aims to give individuals who've taken a career break, the opportunity to return. It is vital that we encourage more young people to study science, but also that we give people opportunities to return to STEM careers after a break.'

Matt Blakely, Director,
Motorola Solutions Foundation

Establishing ongoing partnerships

Collaborations and partnerships are central to the Trust's success.

We are a small organisation and working with others with similar goals ensures we maximize the benefits to all partners. During the year we saw the first Medical Research Scotland (MRS) sponsored Fellows begin their Fellowships at Glasgow University. The partnership we have developed with MRS will mean up to three individuals each year will return to research with Daphne Jackson Fellowships in Scottish universities and

contribute to the advancement of medical research in Scotland. We look forward to placing a further three Fellows in 2015.

Our collaboration with the Royal Society of Chemistry also offers tremendous potential, in this case to support 25 returners to the Chemical Sciences over a five year period. It is exciting to be working with such a forward looking Learned Society that has made a firm commitment to developing the careers of women and men who have been on career breaks. We hope to develop more enduring partnerships with other learned societies in the near future.

The number of universities that work with us on an ongoing basis continues to rise, and in 2014 we established a partnership with the University of Sussex that will see the university supporting Daphne Jackson Fellowships across all areas of STEM.

'We are delighted to be working with so many organisations committed to ensuring we maximise the potential of returners as they embark on a successful journey back to their chosen careers'

Dr Katie Perry, Chief Executive

Reaching out, leaning in

During their Fellowship many Fellows publish their research and secure follow on funding to continue the work post Fellowship. Once established, they go onto make significant contributions to their research field and in many cases the work has real practical application and can bring benefits to society as a whole.

We are delighted that the impact the Trust is having in supporting returners and improving the diversity of the STEM workforce continues to increase.

The Trust was commissioned early in 2014 to carry out a feasibility study to explore the possibility of extending the Daphne Jackson Fellowship model to the commercial sector for female engineers. Although the study confirmed that the Daphne Jackson Fellowship model that works extremely well for academia, was unsuitable for use in the commercial sector, we are delighted that the government, through its new strategy for innovation and growth, will support a platform to help women return to all STEM industries.

Here at the Trust, we continue to extend our reach by contributing to steering groups and advisory groups organised by the Society of

Biology and Royal Society to develop and support best practice for returners and diversity in STEM.

In November 2014 the Trust won the Women in Science and Engineering (WISE) Leadership Award. The WISE award demonstrates that as an organisation we understand the needs of returners and can provide the necessary mentoring and support that allow those who've taken a career break to successfully return.

Our Fellows are great ambassadors for the Trust and not only do they carry out high quality research, many of them reach out to engage young people through science clubs and festivals and encourage them to pursue STEM subjects. Others are reaching out to STEM employers and potential returners by presenting at meetings and conferences and sharing their stories of personal journeys back to research with a Daphne Jackson Fellowship.

Supporting other returners

Like many Daphne Jackson Fellows, Dr Emma Pilgrim is passionate about what she does and is keen to share her excitement for science to inspire others, and to use her experience of returning to research following a career break to help others in a similar situation.

Before Emma started her Fellowship in August 2014, she had already set up a South West Supporters Network for Daphne Jackson Fellows. Although the group has only met once in person, they have established a Facebook page and LinkedIn group, and are planning further face to face meetings in 2015.

'People who have been in similar situations can learn so much from each other. It is also the opportunity for DJ Fellows to give something back.'

Dr Emma Pilgrim, Daphne Jackson Fellow

Emma is also participating in the Society of Biology's 'returners to biosciences' working group, which is committed to addressing the issues that returners face.

The Big Bang South West event was Dr Emma Pilgrim's (right) first foray into science busking.

'I believe it is important for people who have taken a career break to have opportunities to re-use their valuable skill set.' Emma says 'By contributing to this group I hope to alleviate some of the pitfalls and challenges I faced during my career break.'

Emma has also written a blog about her work and in August 2014 enjoyed her first foray into STEM busking at the South West Big Bang Event.

Other Fellows networks are also thriving around the country and Dr Esther Crooks, a DJ Fellow at Derby University who co-ordinates a Midlands network says 'These meetings are always great fun. The chance to talk to other Fellows is helpful, reassuring and energising. Daphne Jackson Fellows are often in a unique position within their research groups, and these meetings offer a welcome opportunity to talk about returning to research, work-life balance and future plans with others in the same situation.'



Winning the WISE Leadership Award, 2014, reinforces the Trust's position as the UK's leading organisation dedicated to realising the potential of scientists and engineers returning to research following a career break.

'It is ironic that science, uniquely, has failed to address the employment issues arising from the simple fact that it is women who bear children. Many professions (accountancy, the law, teaching etc) have managed to work out how to re integrate women returners. Science needs more organisations like the Daphne Jackson Trust (and those bodies which support it)'

Andrew Miller MP, Chair, House of Commons Science & Technology Select Committee



Photo courtesy of Phil Mingo/Pinnacle

7 out of 10
Fellows
stay in research
after successfully
completing their
Fellowship



Autism research impacting lives

Dr Morag Maskey successfully completed her DJ Fellowship in 2013 and returned to autism research.

During her Fellowship she investigated whether using a cognitive behaviour therapy (CBT) approach combined with an 'immersive virtual reality environment' 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 6 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 improved in all cases.

Reducing Specific Phobias Fear in Young People with Autism Spectrum Disorders (ASDs) through a Virtual Reality Environment (VRE)

Morag Maskey Jessica Lowry, Jacqui Rodgers, Helen McConachie, Jeremy R. Parr. Published: July 02, 2014 PLoS One

Morag's research was published in July 2014 and she has now secured a 3 year grant from the National Institute for Health Research to explore whether this intervention is beneficial for a further 32 patients referred from the NHS. In 2015, Morag will extend her work to look at whether the intervention is also effective for adults with autism.

'When I started in autism research, one of my aims was to carry out intervention research which improved the daily lives of those with autism and their families. This drive was borne out of my own experience of having a child with autism. It has been particularly satisfying to see the difference it has made to the research participants and their families.' She said.

'The novel therapy has been more effective than any of us had anticipated and it has been richly rewarding to be part of that'

Dr Morag Maskey,
Former Daphne Jackson Fellow

Maternal health and pregnancy outcomes

During her Fellowship, Dr Caroline Taylor (DJ Fellow '11-13) analysed lead levels in blood samples from 4,285 mother-child pairs collected during a longitudinal study called 'the Avon Longitudinal Study of Parents and Children (Children of the 90s)'.

The research found that women with blood lead levels above five micrograms per decilitre were more likely to have attended university, and to smoke and consume alcohol and coffee.

The study demonstrates that it cannot be assumed that more disadvantaged populations have higher exposure to environmental pollutants. The research also demonstrated that women of Indian, Pakistani and Bangladeshi ethnicity living in the Bristol and Avon area had higher blood lead levels than white women

living in the same area. Caroline Taylor said 'Our research reinforces the current advice to women who are pregnant or planning a pregnancy that they should stop or reduce their alcohol and caffeine intake and give up smoking if they can.'

Environmental lead levels may have dropped since the blood samples were taken in the early 1990s due to the removal of lead from petrol and paint. Caroline will now carry out further analysis of the data and an up-to-date study of lead levels in pregnant women

Adverse effects of maternal lead levels on birth outcomes in the ALSPAC study: a prospective birth cohort study'

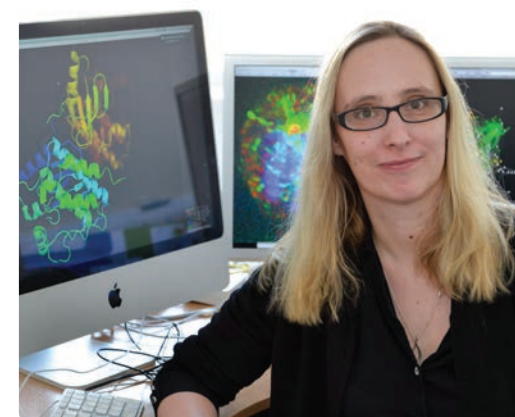
Caroline M Taylor, Jean Golding, Alan M Emond. AM 2014, BJOG: An International Journal of Obstetrics and Gynaecology



in the UK thanks to a four year Career Re-entry Fellowship awarded by the Wellcome Trust.

'I am so grateful to the Daphne Jackson Trust. Without the Daphne Jackson Fellowship I wouldn't have had the skills or confidence to apply for the Wellcome Trust Fellowship.'

Dr Caroline Taylor, Former Daphne Jackson Fellow



Genetic analysis could speed up personalised tumour treatments

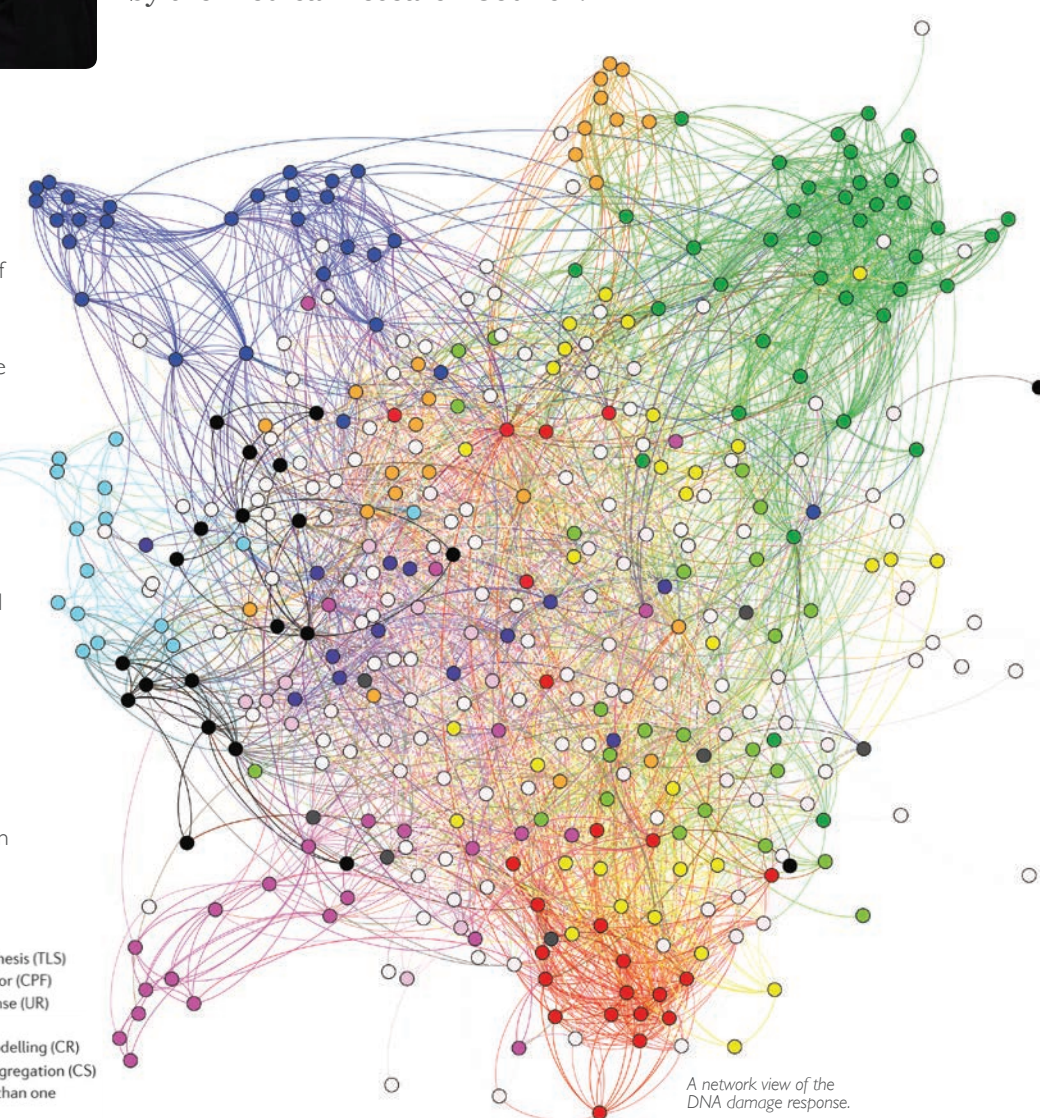
Dr Frances Pearl returned to research with a Daphne Jackson Fellowship sponsored by the Medical Research Council.

During her Fellowship (DJ Fellow '11-'13) Frances analysed the DNA of tumours from over 5000 cancer patients to identify 'weak spots' that could be targeted with new medicines. Her Fellowship was jointly hosted by the University of Sussex and the Institute of Cancer Research, where the analysis focused on DNA repair systems that normally protect the cell from uncontrolled division, but that are defective in almost all cancers.

'Knowing which DNA repair processes are defective in an individual tumour allows us to target new drugs that are only toxic to cells with a particular pattern of mutations - ie cancer cells.' Frances explained. This approach, tailored to individual cancers, could help avoid the toxic side-effects commonly experienced during chemotherapy and radiation therapy, and should help speed up the development of new personalised cancer treatments.

Frances now holds a full time position as Bioinformatics Academic Research Manager in the School of Life Sciences at the University of Sussex, where she continues her research.

- Homologous recombination (HR)
- Fanconi anaemia (FA)
- Non-homologous end joining (NHEJ)
- Base excision repair (BER)
- Nucleotide excision repair (NER)
- Mismatch repair (MMR)
- Telomere maintenance (TM)
- Translesion synthesis (TLS)
- Checkpoint factor (CPF)
- Ubiquitin response (UR)
- p53 pathway
- Chromatin remodelling (CR)
- Chromosome segregation (CS)
- Others or more than one



Therapeutic opportunities within the DNA damage response.
Laurence H Pearl, Amanda C Schierz, Simon E Ward, Bissan Al-Lazikani, Frances MG Pearl, 2015, Nature Reviews Cancer, 15.

'I am delighted that so many of our Fellows successfully re-establish their research careers and go on to make such valuable contributions to STEM disciplines. They are not only impacting the research knowledge base, but are inspiring and empowering the next generation to follow STEM careers'

Dr Katie Perry, Chief Executive

Thank you to all the sponsors & donors who have supported our work.

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Fellows in the coming year.*



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

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**MOTOROLA SOLUTIONS
FOUNDATION**

This publication has been produced
with the generous support of the
Motorola Solutions Foundation