Address

UK Resource Centre for Women in SET
Listerhills Park of Science and Commerce
40 - 42 Campus Road
Bradford BD7 1HR

Telephone

01274 436485

Email

setwomenresource@bilk.ac.uk

Internet

www.setwomenresource.org.uk

Women of Outstanding Achievement in SET Photographic Exhibition

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2006

The Concept

The UK Resource Centre for Women in Science, Engineering and Technology (UKRC) is proud to introduce the Women of Outstanding Achievement in SET Photographic Exhibition.

With just 24.1% of employees in science, engineering and technology (SET) professions being women, the UKRC is constantly seeking new ways to make women in SET more visible as role models and inspiration to others. This imaginative collection of portraits features six women who are making an outstanding contribution to:

> **Scientific discovery and SET innovation**

> **Science Communication**

> **SET Leadership**

Inspired by the lack of women scientists and engineers profiled in public art collections, the UKRC has commissioned these portraits to capture the individuality, essence and gravitas of six inspirational women - creating a legacy for future generations, male and female.

This concept has captured and enthused many imaginations. Fifty-eight nominations were received and it is intended that new portraits will be added to the collection annually.

Launched on International Women's Day, it is both a celebration and tribute to the collective and individual contribution that women are making to this important sector of the UK economy.

The Photographer

Robert Taylor has specialised in artistic portraiture for eighteen years, and has pictures in collections, including those of the National Portrait Gallery and the Victoria and Albert Museum.

"The secret of producing a good photographic portrait is to engage the subject in a collaborative effort in which both parties bring something to the final result. Clearly this is something present in Robert Taylor's engaging and provocative collection of characters.

A picture without a caption is only a partial picture. By including the voices of his subjects as they explore the surprisingly complicated business of being themselves, the whole enterprise becomes far more democratic, multi-sided and ultimately worthwhile."

Terence Pepper
Curator of Photographs, The National Portrait Gallery

The Collection

"We know that 70% of women with Science, Engineering and Technology qualifications are not working in these professions, so it is particularly appropriate to celebrate those that are making significant contributions to both science and society.

I hope by launching this exhibition on International Women's Day it will not only inspire and encourage more women into SET, helping create a more equitable and diverse workforce in the UK but also ensure that women in these fields are included and celebrated as part of our scientific heritage."

Tessa Jowell MP
Minister of State for Culture Media and Sport and Minister for Women and Equality

For Scientific Discovery and SET Innovation

Professor Wendy Hall CBE
Professor of Computer Science
University of Southampton

Proud

"My research and its impact.
Acting as a role model for other women.
My leadership capabilities."

For Scientific Discovery and SET Innovation

Professor Jocelyn Bell Burnell CBE
Astrophysicist, Visiting Professor,
University of Oxford

Inspired

"As soon as I started physics at secondary school it was clear that I was good at it. Shortly afterwards the launch of the first Sputnik satellite by the Soviets showed the West that it was behind them and there was consequently a great push here and in the US to encourage more people to do science."

For Science Communication

Professor Kathy Sykes
Holds the Collier Chair in Public Engagement of Science and Engineering, University of Bristol

Reasons

> "As well as holding delights in themselves, these subjects are fantastic passports to lots of interesting things to do with your life... some of which can help make things here on the planet a bit better -if you choose well."

For Science Communication

Dr Maggie Aderin
Managing Director, Science Innovation Ltd
Senior Project Manager, Space Science at Sira Ltd

Communicate

> “Tell people what you do. SET subjects often have an air of mystery. If young people don’t know what it’s about they are less likely to get involved. They are needed for the country’s future so it’s worth the investment of time.”

For SET Leadership

Professor Julia Goodfellow CBE
Chief Executive,
Biotechnology and Biological Sciences
Research Council

Inspiration

"My father was an engineer and as I am the eldest child he shared his thoughts and work on science and engineering with me. I thought they were perfectly normal careers for men and women. These areas can be both intellectually rewarding and lead to practical solutions as well as being great fun."

For SET Leadership

Rebecca George OBE
Director, IBM

Advice

> “Widen your horizons. Ask people what they do at work. Go and visit people at work. You can do anything you want to.”

Professor Wendy Hall CBE

Wendy Hall is Professor of Computer Science at the University of Southampton and currently Head of the world-renowned School of Electronics and Computer Science.

The founding head of the Intelligence, Agents, Multimedia research group in the University of Southampton, Wendy is an outstanding researcher and an inspirational research leader. She has published over 350 academic papers and is currently working to create a new research institute in the emerging field of web science.

Appointed president of the British Computer Society in 2003 (only the second woman to hold this position in the institution's fifty year history), Wendy seized this opportunity to champion women in technology and help bridge the gender gap, establishing new initiatives and good practice.

Wendy became the first female Senior Vice President of the Royal Academy of Engineering in 2005, and in 2006 is bringing the International World Wide Web Conference to the UK for the first time.

Wendy's inspiration?

I found maths easy at School. I'm passionately interested in the research I do, and the doors that my career path has opened for me.

Why should women get involved in SET?

The amazing opportunities these disciplines offer, both in terms of exciting challenges and the feeling that you can really make a difference to the world, being innovative and creative. Never settle for second best. Do what you want to do and aim high.

Proudest achievement?

My research and its impact. Acting as a role model for other women. My leadership capabilities. My CBE.

Advice to prospective SET employers?

Create a diverse workforce and an environment in which people from diverse backgrounds will enjoy working. Half of the population are women so, if they are not encouraged to become part of your workforce, you are shutting the door on a lot of highly skilled people and losing out on their input to your research and the products you are manufacturing and marketing. You will benefit from a workforce with a more balanced set of skills and expertise.

Feelings about the photo session?

I enjoyed the photo session enormously – I thought we had a great time – lots of fun and laughter.

Professor Jocelyn Bell Burnell CBE

Jocelyn 'retired' as Dean of Science at the University of Bath in 2004 and moved to a Visiting Professorship at the University of Oxford and a Professorial Fellowship at Mansfield College.

She started her academic career by failing the Northern Ireland equivalent of the 11+ but went on get a Physics degree at Glasgow University and PhD in Radio Astronomy at Cambridge. During this time she was involved in the discovery of pulsars, opening up a new branch of astrophysics - work that was recognised by the award of a Nobel Prize to her supervisor.

While working part-time to raise a family she managed the James Clerk Maxwell Telescope in Hawaii as a facility for astronomers in British, Canadian and Dutch universities. She has used telescopes flown on high-altitude balloons, launched on rockets and carried on satellites, and built a radio telescope that was firmly grounded in Cambridgeshire.

Jocelyn has been awarded the Oppenheimer prize, the Michelson medal, the Tinsley prize and the Magellanic Premium. The UK's Royal Astronomical Society has also presented her with the Herschel Medal. The public appreciation and understanding of science have always been important to her. In 1999 she toured Australia giving the Women in Physics Lecture and her appointment to the Open University doubled the number of female professors of physics in the UK.

Jocelyn's inspiration?

As soon as I started physics in secondary school it was clear I was good at it. Shortly afterwards the launch of the first Sputnik satellite by the Soviets showed the West that it was behind them and there was consequently a great push here and in the USA to encourage more people to do science.

Reason for women to get involved in SET?

It needs them and they need it.

Proudest achievement?

The discovery of pulsars.

Career advice?

Go for what interests you, but at the same time, to 'future-proof' your life, try and keep your options open.

Advice to prospective SET employers?

There's great strength in a diverse staff and workforce.

Feelings about the photo session?

Interesting, entertaining!

Professor Kathy Sykes

Kathy Sykes holds the Collier Chair in Public Engagement in Science and Engineering at the University of Bristol and is regarded as a leading figure in Britain promoting public engagement in science.

Professor Sykes has a PhD in physics with an interest in biodegradable plastics however she works well beyond these parameters particularly where the science has a social impact. Having thought deeply about the responsibility of scientists to grasp ethical issues, Kathy believes there needs to be much broader public engagement.

Director of the innovative Cheltenham Science Festival since its inception, her unique expertise and outstanding communication skills have led her to become a respected member of key bodies, including the Council for Science and Technology.

Her media involvement started with Tomorrow's World, and she regularly contributes to Rough Science, which has a superb reputation in engaging people of all ages with science. She has recently presented a series called 'Alternative Medicine – The Evidence' on BBC2.

Due to her outgoing personality, ability as a presenter and passion for teaching Kathy is highly valued by senior staff in the BBC's Science Factual Department. Above all, she is an ideal role model for all young scientists.

Kathy's inspiration?

Sitting on my mum's bed, asking her what the world was made of – and at age 6 her telling me about atoms. I thought they were an amazing idea. Then my A level Physics teacher - who explained that physics wasn't about truths - learning facts and figures - but about ideas and models of the world you needed to 'hold quite lightly' in order to make space for better models when current ones were shown not to work. The idea of 'holding things lightly' was very appealing. It also showed me that there was space for creativity in Physics (which sadly hadn't been apparent yet); to come up with new models to challenge existing ones.

Advice to women getting involved in SET

If you find the thing you want to do or study, be proactive - find out what's needed, tell people you want to work for them, and go for it. Don't let feeling you're 'not good enough' ever stop you. As well as holding delights in themselves - these subjects are fantastic passports to lots of interesting things to do with your life…some of which can help make things here on the planet a bit better -if you choose well.

Proudest achievement?

Helping to create a new hands-on science centre - that's attracted millions of people.

Advice to prospective SET employers?

Make it easy for people to work across disciplines and with different kinds of people. Nurture a culture of valuing all kinds of people and ideas and accept that people need to feel safe enough to take risks (and so fail sometimes) to have a truly creative environment.

Feelings about the photo session?

How rare and interesting to be asked about 'feelings' in something to do with SET. It was a real privilege to have someone as talented as Robert taking my photograph.

Dr Maggie Aderin

Born in the UK to Nigerian parents, Maggie Aderin has worked as a scientist for 11 years. She has managed multimillion pound projects and multidisciplinary teams to develop bespoke instrumentation, ranging from hand held mine detectors to satellite detection systems to help understand climate change.

Her interest in science began at the age of 6 when she saw an astronomy book in the school library and decided she wanted a career in space. Despite suffering from dyslexia she went on to university at Imperial College and got her first degree in Physics and a PhD in Mechanical Engineering.

Maggie's company Science Innovation Limited has a primary goal of public engagement; sharing her enthusiasm for science to persuade children, especially girls and those from ethnic minorities, that they can have fulfilling careers in science. Through her "Tour of the Universe" talks she has given thousands of young people a taste of space through a journey from our planet through the solar system, out to the Milky Way and beyond. She will appear on CBBC during National Science Week and plans to set up links and projects between schools in Africa and the UK. An outstanding role model Maggie has shown that ethnicity, gender or a humble start in life need not be barriers to setting and achieving high goals in SET.

Maggie's inspiration?

My father, who got me interested in science and engineering. I also had a keen interest in space which was very topical when I was growing up in the 1960s and early 70s. I had some really great teachers too who made the science come alive.

Mr Vesty, my Physics and Chemistry teacher for O' Level had a way of making you feel that you were doing each experiment for the first time ever. Very exciting.

Reasons for women to be involved in SET?

As a scientist you can have a really interesting career. With work I have travelled all over the world, met some amazing people and seen truly fantastic things. With a science career you can really make a difference to the world, which is really important to me.

Advice to women getting involved in SET?

Work to your strengths. Find something that really interests you. Have confidence and aim high. Generally we can achieve much more that we realise.

Proudest achievement?

Setting up my own company, very hard work, really scary but also very worthwhile.

Advice to prospective SET employers?

Send your good communicators out telling people what you do. SET subjects often have an air of mystery. If young people don't know what it's about they are less likely to get involved. They are needed for the country's future so it's worth the investment of time.

Professor Julia Goodfellow CBE

In 2002 Julia became the first female Chief Executive of any research council when she started at the Biotechnology and Biological Sciences Research Council.

With a degree in physics and doctorate in biophysics, Julia worked at Standford University, USA before progressing her career at Birkbeck College, University of London, where she became Professor of Biomolecular Science in 1995 then Vand head of the School of Crystallography in 1996 and vice-master in 1998.

Julia has been responsible for an internationally recognised research group and her ongoing research interests include the use of computer simulation techniques to study the structure and function of large molecules.

Julia's varied skills and achievements are illustrated by the fact that she is a fellow of the Academy of Medical Sciences, the Institute of Biology, the Institute of Physics and the Royal College of Arts. She was awarded a CBE in 2001.

Julia is cited as embodying the concept of multi tasking, successfully combining family commitments, scientific endeavour and management to rise to the top of her profession as a scientist.

Julia's inspiration?

My father was an engineer and as I am the eldest child he shared his thoughts and work on science and engineering with me. I thought they were perfectly normal careers for men and women. These areas can be both intellectually rewarding and lead to practical solutions as well as being great fun.

Reason for women to be in SET ?

Because they want to: they must enjoy aspects of it, whether abstract concepts or practical outcomes. It can be both intellectually rewarding, lead to practical solutions as well as being great fun.

Proudest achievement?

'Survival.' Having a scientific career covering research, teaching and now management and policy.

Career advice?

Keep options open and maintain 'transferable' skills as well as technical knowledge.

Advice to prospective SET employers?

Allow employees to visit schools to encourage children. Encourage public dialogue on scientific issues, allowing employees to exchange views about their work with a wide spectrum of individuals and groups. Provide good practice in terms of careers encouraging diversity and career development for all.

Feelings about the photo session?

It was clear I was working with a professional. Much more enjoyable than I had imagined.

Rebecca George OBE

As a Director of IBM Rebecca manages central government business development in shared services and raising the company profile.

Rebecca has worked worldwide in various roles, including managing an HR shared service project web enabling pan-continental recruitment and instigating a shared multi-lingual shared services centre.

Clearly going the extra mile, Rebecca actively works to increase the number of women in IT in the UK through activities such as chairing the DTI's Women in IT Forum, commissioning research into the business case for diversity, flexible working and retention issues.

Through publishing papers and enthusiastic involvement in high level reports, advisory boards and specialist committees, Rebecca champions female engagement in IT, seeking change, not only in work place culture and practices but also more fundamentally and strategically, especially in the public sector. Her achievements earned her the OBE in 2005.

Rebecca uses her success to inspire others and goes to great lengths to encourage and help other women succeed.

Rebecca's inspiration?

Finding a computer at Oxford, learning how to use it, and making money from it! Realising the value of having even the simplest of unique skills.

Why should women go into SET?

Women are good at it. There are so many opportunities.

Proudest achievement?

Apart from my two fantastic sons, getting my OBE for services to the IT industry.

Career advice?

Widen horizons, visit people at work, ask what they do. You can do anything you want to.

Advice to prospective employers in SET?

Remember three generic things about women - they will almost never say they can do a job in an interview, despite superb qualifications; almost always remember bad news or criticism, not praise; and will almost always believe they are doing a bad job unless told otherwise.

In these ways most women are the opposite of most men.

Feelings about the photo session?

Quite nervous. I record the memories in my family, rather than be in front of the camera.

The UK Resource Centre for Women in Science, Engineering and Technology

Established in 2004 to deliver a substantial part of the Government's Strategy for Women in SET, the UKRC is funded by the DTI with substantial added value through ESF Equal funding. Its aim is to increase the participation and position of women in SET through direct and indirect services.

Its mission is to establish a dynamic centre that provides accessible, high quality information and advisory services to industry, academia, professional institutes, education and Research Councils within the SET professions, whilst supporting women entering, returning and progressing in SET careers. It currently funds 23 other organisations working within this field.

Acknowledgements

The UKRC is proud to have originated this important initiative and wish to thank all involved with it: all those individuals and organisations who nominated women and supported the process, the selection panel, the photographer, the design team, and most importantly all the fifty-eight women nominated and doing such fantastic and inspirational things in SET.

uk resource
centre for women
in science, engineering
& technology

“If you look at the portraits that adorn the walls of our great institutions and public buildings it soon becomes apparent how few women are actually featured. That is what is so exciting about this exhibition. We want to create a legacy for the future: a collection of photographic portraits that will celebrate women in SET.”

Annette Williams, Director UKRC