

Welcome to our eighth newsletter! It has been a long period since number seven but the Group, and in particular the committee, has been very involved with diverse projects and activities, and these are described in this issue.

The major event last year was the first ever international conference on Women in Physics, sponsored by the International Union of Pure and Applied Physics (IUPAP). We were well represented and subsequently the team has written the report *Women Physicists Speak*, which was launched at Institute headquarters in September. The report is essential reading, we have already had to have a second print run!

Members of the Women in Physics Group contributed comments and ideas on the Greenfield Report *SET Fair* to the Institute which have been incorporated into its response to the Secretary of State, and we await her reply.

Another important development has been with mentoring. The Women in Physics Group has officially joined MentorSET, and some mentoring pairs have been made. A Mentor training day at the Institute Headquarters with opportunities for mentees and mentors to meet is being planned in the near future.

Our Secretary Ann Marks has been using the Institute based e-mailing tool, and this is proving to be an excellent way of communicating with the group as a whole. We have already managed to fill a 'special' place at an event co-sponsored with another group using this system.

We welcome Dr Julia King as the Institute's Chief Executive. In the months ahead there will be major changes in the structure of the Women in Physics Group – to the benefit of us all. See the article on Institute news.

I hope you enjoy this issue of our newsletter.

 , Editor

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IUPAP CONFERENCE on Women in Physics 2002

In March 2002 the International Union of Pure and Applied Physics (IUPAP)⁽¹⁾ sponsored the first ever international conference on Women in Physics. Over three hundred delegates, from 65 countries, attended the conference which was devoted to understanding the reasons for the severe worldwide under-representation of women in all areas of physics. The conference aimed to develop strategies which would increase their participation and to trigger ongoing activities to implement change.

A large number of very distinguished men and women gathered in Paris for the conference bringing with them a wealth of experience of the issues at all levels. As the majority came from academia and education the discussions were largely focused on these areas. Many experiences were found to be common to the worldwide *physics and astronomy* community so that a fascinating overview became clear as delegates shared their experiences.

The UK team⁽²⁾ was drawn from a wide range of positions in astronomy as well as physics with Professor Gillian Gehring, of Sheffield University, as the enthusiastic team leader. Before the conference the team had submitted a two page report describing the present situation in the UK⁽³⁾ where, despite the fact that there seems to be a genuine desire among the political, scientific and engineering establishments for change, progress has not been rapid.

The question might be posed whether it is of any concern in the UK that women are under-represented in physics and that this under-representation increases with seniority. However, the House of Commons Select Committee on Science and Technology 6th Report⁽⁴⁾, published in 2001, states "Women remain under-represented within the SET community, particularly in the mathematically based sciences and engineering. And women who are working in SET appear to be less successful than their male colleagues."

Also the team had prepared 3 posters on 'Encouraging Girls to Study Physics', 'Women in Crystallography' and 'Astronomy'. These raised a considerable amount of interest at the conference and are on its website.

The Conference closed by approving several Resolutions and the Working Parties produced specific Recommendations. The resolutions were directed at Schools, Universities, Research Institutes, Industry, Scientific Societies, Governments, Granting Agencies and IUPAP itself. The recommendations dealt with the various stages of a physicist's career. It is thought that if these recommendations are implemented then there would be improvements for men as well as women. The delegates were charged with the responsibility of translating the resolutions and recommendations into the context of their home countries and then communicating them as widely as possible.

References

- (1) IUPAP conference website <http://www.if.ufrgs.br/%7Ebarbosa/conference.html>
- (2) The UK Team at the IUPAP Conference on Women in Physics who participated in the preparation of the report "Women Physicists Speak" were:

Professor Gillian Gehring (team leader)
Dr Yasmin Andrew
Dr Joanne Baker
Professor Sandra Chapman
Dr Dimitra Darambara
Dr Helen Heath
Mrs Ann Marks

University of Sheffield
JET project
University of Oxford
University of Warwick
University College London
University of Bristol
Physics teacher

Also present, from the UK:

Miss Joanna Hamilton (Glasgow University) and Miss Roisin Keenan (Queens University, Belfast) who, along with Dr Joanne Baker (listed above), obtained EPS bursaries available to young researchers (aged under 35) from the EU and candidate countries.

Dr Peter Melville and Miss Alex Byrne, representing the Institute of Physics

Professor George Morrison (University of Birmingham), representing Europhysics News.

Dr Yvonne R Masakowski representing The Office of Naval Research
Professor Teresa Rees who gave a plenary talk at the conference.

(3) The 2 page report in the IUPAP conference proceedings

(4) <http://www.parliament.the-stationery-office.co.uk/pa/cm200001/cmselect/cmsctech/200/20007.htm>

Since the conference the team has worked to raise awareness of the issues and has written a major report entitled "Women Physicists Speak".

The Report was Launched

on 5th September at the Institute of Physics. Each of the four speakers had a wealth of experience of the issues and spoke enthusiastically in favour of the report.

Sir Brian Fender (Former Chief Executive, Higher Education Funding Council for England) spoke from the perspective of 'academic women in science' and stated that the key issue is retention. He described the need for change that is both fast and monitored in which new policies are implemented and the results assessed before the next round of policies are introduced.

Dr Helen Walker (Chair of the RAS Committee for women in Astronomy and Geophysics, Space Physics Division of the Rutherford Appleton Laboratory) spoke of her experiences in the Royal Astronomical Society pointing out that despite the fact that there are famous women astronomers many women, even those without family commitments, experience career problems and appear to be less successful than their male colleagues.

Dr Joan Mason (Chair of the Association for Women in Science and Technology) gave an interesting talk about AWISE and the advantages of mentoring.

Finally, **Dr Judith Glover** (Reader in Sociology and Social policy at Roehampton University) gave a fascinating account of her studies of the culture as a sociologist, describing the 'chilly climate' pervading physics.

The executive summary of 'Women Physicists Speak' has been reproduced on pages 13 – 14.

The team would like to thank AWISE for hosting the Report.

The whole report may be downloaded from

<http://www.awise.org/whatsnew.htm#wps>

At the end of the 2002 Paris IUPAP Conference it was decided that a European Women in Physics Group should be set up at once. Gillian Gehring was invited to chair the Group through its initial stages and has kindly sent us the following report at the end of its first year.

Gender Equality Group Report to EPS Council 2003

This was formed after the IUPAP International Conference on Women in Physics held in Paris in March 2002. The aims of the group are:

1. To establish email and web links between the women in physics groups in the various countries where these exist.
2. To exchange information on initiatives taken in the respective countries to increase the participation by women.
3. To provide a list of those who would be prepared to offer help and advice to those from a different European country.
4. To produce a list of possible seminar/conference speakers from each country. Listed by subject area and by seniority. (This list would be made available to conference organisers if they requested help in locating women speakers) Also a list of those who might go on to editorial boards.
5. A Marie Curie list of those who had held/hosted Marie Curie fellows who would be prepared to be called upon for advice by would-be fellows.
6. To advise the EPS on what might be the best way in which the EU could support women in physics (and other sciences) and act as a pressure group to the EU to ensure that more women friendly policies were adopted.

The guiding group are the women who led the delegations from their respective countries. There has been much email traffic over the year.

Over the year a shell of a web site has been constructed. This can go live very soon. This will enable us to communicate much more widely within the EU community. This will include both the male and female physicists who we hope are enthusiastic about accelerating the change in the gender balance of our community.

We are in consultation with the EU about obtaining VI Framework funding to enable us to set up a good roster of women speakers. This is actually a huge job to do it properly and funding is really necessary. The web site will enable us to share good practice.

We ask support from the EPS. Obviously much of the current gender balance in universities is determined by the education patterns that prevailed 30-40 years ago. However there is still evidence of young women finding (or thinking that they are finding) barriers to progression. The change in the gender balance in physics will only come about with the wholehearted support of the whole community.

Gillian Gehring
March 2003

REPORTS ON WOMEN IN PHYSICS GROUP MEETINGS

Seventh Annual General Meeting 5th September 2002 at IOP HQ

1. Reports from Officers

The Chair: Dimitra Darambara's report included the IUPAP Conference held in Paris in March 2002 and the developments which have followed. This was the first ever international conference on Women in Physics. Also she spoke about the Working Party on Women in Physics set up by the Institute.

Hon Secretary: Extracts from the Secretary's report written by Shirley Bateman which covered the period up to January 2002 were read and then Ann Marks gave an overview of the activities of the Group over the remainder of the year. The year has heralded several new important developments and initiatives. These reports are included in the newsletter.

Hon Treasurer: A brief report submitted by Jennie Thomson was read. It stated that the Groups finances were in a healthy state.

2. Retiring Members: Messages of thanks were sent to Jane Croucher and Tracy Soanes, and Shirley Bateman was thanked for her diligent work as Hon Secretary.

3. Officers:

It was proposed that Dimitra Darambara should continue as Chair of the Group and Jennie Thomson as Hon Treasurer.

Also it was proposed that Ann Marks should take up the role as Hon Secretary; the role which she had been fulfilling since January.

All these proposals were agreed.

4. Committee:

Professor Sandra Chapman of Warwick University was elected unanimously to serve as a committee member.

It was agreed that Lesley Barkley should be co-opted to act as a link with the Education Group. Also Shirley Bateman should maintain a link with the committee as a co-opted member.

5. Any Other Business:

Listserv There was a brief discussion about an email discussion network. The idea was welcomed by those present as being a useful facility. The Secretary will pursue the matter.

Following the AGM - The WIPG Committee Members for 2002-2003 are:-

Dr Dimitra Darambara - Chair
Mrs Jennie Thomson - Hon Treasurer and
Newsletter

Mrs Ann Marks – Hon Secretary

Professor Sandra Chapman

Dr Julie Corbett

Ms Barbara Gallani

Professor Gillian Gehring

Mrs Andrea Fesmer

Mrs Marjorie de Reuck

Co-opted members: Liz Whitelegg,
Mary Wood,
Lesley Barkley
Shirley Bateman
Karen Russ

Honorary Secretary's Reports

Last year Shirley Bateman was our Secretary until ill-health forced her to hand over the reins to Ann Marks in January. The reports from both were sent out to Group members last Autumn. If you wish to see them, they are available on our website.

Points from the WIPG Committee Meeting on 4th Dec 2002

We were delighted that Julia King was able to join us.

1. IUPAP conference on Women in Physics

follow up:

- The Launch of the report "Women Physicists Speak"
- All 500 copies of the Report have been distributed already.
- A reprint of 500 copies was agreed.

2. Industry Report

- The Joint venture with the Consultancy Group took place successfully.
- L & SE Women's Meeting.
- Dominique Cannavina took over as Chair of the Women's section of the L & SE Branch. Her first meeting was on 23 October 2002.

3. Chairs of Groups meeting:

- The Divisional Affairs Committee will be replaced by the Group Co-ordination Committee. The new committee will have 4 Divisional Reps and 12 Group reps on it as well as Institute Staff.
- RAE Consultation - Response submitted
- 2005 will be the Year of Physics and called 'Einstein Year'
- The new form of 'Congress' to be introduced in 2005

4. Education

A Sub-Group Meeting had been held at 2.00pm on 4th Dec.

A joint event with the Education Group is being planned to encourage physicists to go into primary schools. It will be held at 76 Portland Place on either 18th or 23rd June 2003. A very full programme is being planned.

5. The Medical Physics Group are currently planning a 2-day meeting on *RF Interactions with Humans: Mechanisms, Exposure and Medical Applications* to be held on 27-28 February 2003.

WIPG agreed to co-sponsor the event.

Also it was agreed to fund some small bursaries.

6. UPDATE: Julia King

(a) Following the acceptance of the report of the Working Party on Women in Physics by Council the following changes will occur.

- A new Women in Physics Committee will be set up which reports directly to Council.
- The WIPG will continue.
- A member of staff will be appointed to support the Women in Physics Committee and WIPG.

The committee agreed that they would like all women members to have automatic free membership of the WIPG and opt out if desired. It may therefore change its name

6b) Names of women physicists were chosen for the four principal rooms in the new building, 80 Portland Place. They are Rosalind Franklin, Daphne Jackson, Hertha Marks Ayrton and Caroline Hershel

6c) Scarves

The Institute had commissioned new scarf designs which incorporated striking physics images.

7. Web and email

- The Email tool is working.
- Listserv. AM agreed to look further into this.

8. **Mentoring:** The pilot DTI sponsored mentoring scheme called MentorSET is for AWISE and WES members. As WIPG has corporate membership of WES women physicists in the Institute will be able to join as recommended by the IoP Working Party report.

9. The Daphne Jackson Memorial lecture at the IEE had been attended by members of the committee

10. A.O.B.

- Personal development workshops: It was agreed that we should look for suitable speakers.
- It was agreed that the £10 membership rate for those on career breaks will help to remove the need for many to lapse their membership. However, our concern is particularly for those who started career breaks before the £10 fee was introduced and would need to reapply for C.Phys on rejoining. We have received assurances that reapplications would be looked at sympathetically.
- Professor Gillian Gehring has written a 'Good University Guide' for women friendly Physics Departments which had been tabled before this meeting. She has included contributions from many eminent physicists.
- The University of Groningen has established five Rosalind Franklin Scholarships, for women only.



Honorary Secretary

IoP NEWS

The Institute of Physics acted very promptly on the IUPAP Resolutions directed to Professional Institutions. A working party was set up under Alison Hodge and their recommendations have been passed by Council.

A new women's strategy committee is being set up, with good contacts guaranteed with the Women in Physics Group. There are opportunities for WIPG to develop, continuing its activities for a wider membership. Also, a new full-time staff member, with high level responsibility for 'women in physics' issues, has just been appointed. The WIPG committee was delighted to hear that the job advertisement attracted a very strong field of candidates. Therefore, we would like offer our warm congratulations to Wendy Kneissl who has just taken up the post as Women in Physics Project Leader, reporting directly to the Chief Executive, Julia King.

Wendy gained her first degree in Astrophysics at UCL and was awarded a PhD at the Cambridge Institute of Astronomy. She then worked at the Max Planck Institute in Munich for three years before returning to the UK to take up a post as an industrial research physicist at Schlumberger, Cambridge, for 5 years. To balance these experiences she has been involved in 'women in physics' initiatives throughout her career. I was fortunate to be able to meet Wendy only days after she had taken up her post and she was eager to hear about WIPG. She is very enthusiastic! I wish her success and look forward to future developments.



Career Break Support

Career Break Rates for Conferences

Did you know that all IOP Members on career breaks may attend Institute conferences at student rates?

Career Break Grants

Also, following the Paris IUPAP Conference on Women in Physics, the Institute now awards Career Break Grants --

"Women and men occasionally need to take breaks from their careers for a variety of reasons, most

commonly child rearing. The Institute's Career Break Grants are intended to help our Members stay in touch with developments in their fields, thus facilitating their eventual return to work – and seek to do this by contributing to the costs of Members' attendance at relevant conferences and similar events."

"Members can apply for help with all costs relating to their attendance at the conference--"

I understand that this means that it is possible for a contribution to be included towards child-care or other caring costs.

Members can apply by going to <http://careers.iop.org/resources>

or by emailing cbg@iop.org

MEMBERSHIP

Reduced Membership Subscription Rates

- Members on a career break are entitled to a reduced membership subscription rate, which is currently just £10.

Email membership.iop.org, including your membership ID number in the text, to qualify for this rate.

John Brindley has emphasised that physicists who are in difficult economic circumstances, for instance are mature students, are entitled to a reduced subscription rate. Please contact the Institute if this applies to you.

Remember that membership subscriptions during a career break are at the low-income rate, currently £10.

Activities for members 2003/4

A series of personal development workshops were proposed. It has been suggested that the first such meeting might be held at Liverpool as a joint Merseyside Branch + RSoC meeting.

We are looking for suitable speakers for these meetings and would welcome your recommendations.

WOMEN IN PHYSICS MENTORING

Mentoring was discussed at the IUPAP Conference on 'Women in Physics' which was held in Paris in March 2002. There speakers emphasised the importance of women mentees having women mentors and the advantages are in the Conference Resolutions. Therefore a mentoring scheme which establishes life-long links for women physicists is strongly recommended by the Report 'Women Physicists Speak' which is covered in this issue.

There are numerous times during everyone's career when advice or encouragement is needed. Most men are likely to have colleagues around them who have had similar experiences and therefore build a wide network of contacts. Female physicists also make contact with many male physicists, the vast majority of whom are very well disposed towards them. But no matter how well meaning, these men are not necessarily able to give a woman sound advice simply because they are not women. Women physicists are more likely to be isolated and although they may know other women physicists, they may not be experienced in the same field.

Women are less likely to make applications for grant funding than men. A mentor with experience of applications would encourage (or discourage) a mentee. A woman returner would understand the problems facing a mentee when returning.

The scheme should be cascading: women through the 'glass ceiling' mentor those in mid-career, those in mid-career mentor those starting. Advice comes best from someone, with similar experiences, who has known the individual for some considerable time. Therefore, as the women's careers develop, the links should continue even when moves from one establishment to another occur.

The Women in Physics Group is convinced that a Women to Women Mentoring Scheme for physicists would be very beneficial, and are promoting **MentorSET**

Do you think that it would be good to have a mentor? Someone who you can refer to over many years as your career develops? Alternatively, would you be interested in being a mentor?

Read on ---

--- and email manager@mentorset.org.uk if you are interested.

MentorSET

www.mentorset.org.uk

A New and Exciting National Mentoring Scheme for Women in SET



Towards a balanced future

ARE YOU A WOMEN WORKING IN SET ? (Science, Engineering and Technology)

Then MentorSET is for you!

A new project from two established organisations -

the Women's Engineering Society (WES) and the Association for Women in Science and Engineering (AWiSE)

WHY BECOME A MENTEE?

Women in science, engineering and technology (SET) need support and advice from people who understand the challenges that we face, as well as the opportunities that we present to employers. Mentoring is acknowledged as a key tool in personal development and empowerment.

Set up jointly by WES and AWiSE, MentorSET aims to connect women in SET with independent mentors who can offer advice and guidance about the issues important to them.

The project is being sponsored by the Promoting SET for Women unit of the DTI. The companies AstraZeneca, FORD, HSBC Bank plc, Matra BAE Dynamics (UK) Ltd and Alstom Power offer MentorSET access to their industrial mentoring training programmes.

The scheme hopes to make working in SET a better experience for women. Mentees and mentors will help to build a knowledge base of best practice which can be disseminated widely. We are now looking for women who are interested in becoming mentors or mentees.

WHY BECOME A MENTOR?

For a positive and rewarding experience. To share your hard-won knowledge and to help others succeed.

One mentor wrote:

'I had a great sense of achievement seeing my mentee pass problems where I stumbled'

Some reasons to spend time and effort mentoring::

- helping others as you would like to have been helped yourself
- offering a helping hand to someone meeting particular problems that you also faced
- standing up for women! helping women to enjoy a career in SET
- improving your management skills, learning more about your working environment from another's point of view

The recruitment of good mentors is key to the success of the programme. There is no need for you to be a member of WES or AWiSE and no knowledge of mentoring is required.

Mentors will be assessed, given training, and then accredited by MentorSET.

HOW MUCH DOES IT COST?

The MentorSET scheme is currently **FREE** to both Mentors and Mentees. Some personal expenses (travel etc) may be met by the scheme.

WHAT HAPPENS NOW?

We will email/send you an application form to be complete. The information you provide will be used to form a potential match.

It is important for the mentor and mentee to establish a relationship and that this has a focus. Realistic goals should be agreed at the outset taking into account the needs of the mentee.

The paired mentor and mentee will meet for an initial chat and to decide whether there is an appropriate match.

The manner and frequency of communications will be decided by the pair.

HOW CAN I APPLY?

See our website www.mentorset.org.uk for an online application form. Alternatively return the form on the next page or e-mail us at manager@mentorset.org.uk.

Application Form

I am interested in becoming a
Mentor / Mentee / Both*

Please send me a questionnaire to complete.

Name

Address

.....

.....

Daytime tel:

Email address

Return the form to:
MentorSET, Elmwood House,
Chichester Road, Midhurst, GU29 9QE.

* please delete as appropriate

Sponsored by Promoting SET to Women unit of the DTI

WES is a registered charity No: 1008913
Promoting the education, training and practice of
engineering among women
WES registered address: 22 Old Queen Street, London. SW1H 9HP
Tel 020 7233 1974

AWiSE National office: 59 Portland Place, London WIN 3AJ
tel: 01264 860010

JOINT MEETINGS

Recently the Women in Physics Group have found that cooperation with other groups and with branches have lead to some interesting meetings.

The L&SE started a women's group and Shirley Bateman sent a questionnaire to members which lead to the idea of an event showing the change in the career choices open to women over the last 40 years. Following this success, Merseyside and Manchester Branches held a joint meeting on the diversity of women's careers in physics with the aim of inspiring girls to take up physics. The discussion during the buffet was very encouraging. Now Dominique Cannavina has taken over as Chair of the Women's Section of the L&SE and another meeting has been held. If you are active in one of the Branches, why not encourage them to include a Women's event in their next programme. Meetings with branches have been well attended by both men and women.

Meanwhile Shirley, as the Chair of the WIPG Industry & Consultancy Sub-Group, worked with the Consultancy Group on the planning of a day meeting on 'starting your own business from home'. This was certainly not a women only event but the topic well with our view that what is helpful to women physicists is helpful to many of the men as well.

Medical Physics is an area of particular interest to a good number of women physicists. The WIPG committee were very happy, therefore, to co-sponsor the Medical Physics conference on "RF Interactions with Humans: Mechanisms, Exposure and Medical Applications" on 27th - 28th February 2003. Through this cooperation an offer of free registration and dinner was made for one member of WIPG. The information about this was sent out by email and from the replies received Lynn Mulelly was offered the place.

Lynn would like to thank both WIPG and the Medical Physics Group for the opportunity to attend the Conference. She wrote: "I work for the Radiological Services department at NNC Ltd. Our expertise is mainly in Ionising Radiation, but there is increasing concern from the public and therefore from local authorities about non-ionising radiation. I found the conference very beneficial, and although some of it went over my head as I am new to the subject, I felt that overall it gave me a very good base in the world of non-ionising radiation and an understanding of recent RF research."

The meeting in June about physicists going into primary schools, mentioned elsewhere in this newsletter, is our next joint venture. Our plans for this meeting have been enthusiastically supported by the Education Group. After these successes we would like ideas for more joint meetings. If you have suggestions, do contact me.

Ann Marks
Hon Sec WIPG

In Print

The March edition 2002 of Physics World featured 'Women in Physics' and Professor Gillian Gehring had her article published 'Mixing motherhood and science'. Gillian also had a previous article published in Sept 2001. She is to be congratulated in addressing women's issues and getting them into print. Very difficult to do.

In this month's issue (March 2003) there is an article on Rosalind Franklin, letters on 'Women require flexible careers...' and '... not rigid targets' with a response by Alison Hodge, plus a letter from Ann Marks on the wrong message being given by the poor design of the new commemorative stamps.

We would like to thank the editors of Physics World for featuring Women in Physics issues so frequently.

Web News

<http://www.slb.com/seed/en/index.htm>

This is a not-for-profit site the IOP has become aware of recently. The case studies are too narrowly focussed in terms of sector for me to link to, and are also based in the USA for the most part, but I thought the Group might be interested in some of them.

Alex Byrne AMInstP
Professional Development Officer
Institute of Physics

<http://careers.iop.org> - wipes the smile off the faces of other career websites

I expect that you may already know about the booklet 'Careers for Girls with a Vision' produced by the Royal Astronomical Society. I think it is absolutely excellent. Helen Walker spoke about it at the Launch of Women Physicists Speak. The web address is:-

<http://www.sstd.rl.ac.uk/rascwiag/wimminA.htm>

PHYSICISTS INTO PRIMARY SCHOOLS

Have you ever thought that you would enjoy visiting primary schools to tell them about your experiences in order to arouse the children's interest in physics? Little physics is taught in primary schools and it has been shown that the image of physicists being boring and grey haired is still widely held by young people. This image is perpetuated by publications such as the recent issue of humorous stamps to commemorate the discovery of the double helix. Bald, moustachioed, 'scientists' are shown in white lab coats, when in fact Francis Crick and James Watson were young and Rosalind Franklin was an attractive female scientist.

The Women in Physics Group is organising a one day meeting which will be held at 80 Portland Place in June 2003. This is a joint meeting with the Education Group which is co-sponsoring the event and is involved with the planning.

The object of the day is to encourage more physicists to visit their local primary schools and act as role models. Thereby enthusing the children and explaining the exciting career possibilities open to physicists. Speakers will describe their experiences of going into schools both through the Ambassador's Scheme and by individual contacts. Some will show how you can gain financially by doing this. There will be opportunities for sharing successful ideas and suitable material as well discussions and a buffet lunch.

Please watch out for more details about this event.



Hon Sec
WIPG

BOOK REVIEW

I've just finished 'Seize the Moment', the autobiography of Britain's First Astronaut, Helen Sharman - quite fascinating. 'Astronaut wanted - no experience necessary.' Helen Sharman heard the radio advertisement while driving home from work and jotted down the telephone number while waiting for some traffic lights to change. It was a moment that changed her life.

(I thought it might be worth a mention for younger physicists, if only to show how exciting and diverse the subject can be and how lives can be changed quite unexpectedly!!)

It is a gripping account of how an 'ordinary' British girl did the extraordinary. A vivid evocation of what it is like to go into space: the launch, the flight, the way of life in a space station, the glory of the stars, the mesmerizing vision of Earth seen from space, and, finally, the re-entry.

Since her return from space she has become one of this country's leading 'ambassadors for science' and was awarded the OBE in 1992.

These are some of the comments on the cover but personally I found it interesting when she discussed the training, the relationships, learning the language and living in Russia with its bureaucracy - i.e. what she had to achieve/overcome to become our First British Astronaut and being female too?

Shirley Bateman

Women Physicists Speak

Executive Summary

Women are currently under-represented in every area of physics. This report presents in a UK context the resolutions and recommendations from the first IUPAP international conference on Women in Physics. Delegates came almost exclusively from academia, so the topics discussed centred on education and research. Some recommendations are specific to physics; others go much wider. (Note that throughout this report the term physics is intended to also embrace astronomy.) It is important to judge whether gender equality has been achieved by monitoring outcomes, not by inspecting the process.

The following recommendations are directed at UK communities and bodies.

Physics and astronomy communities

If there is to be a qualitative change in the participation of women in physics and astronomy, attitudes of mind and procedures in university departments need to change. Both men and women should ensure that all procedures are transparent and that female physicists receive career guidance and support equivalent to that provided for their male colleagues. This support should recognize both the negative peer pressure and the isolation that many women physicists experience.

Departmental structures need to be changed to allow women to combine a career in physics with raising children. The physics community needs good students and should do more to demonstrate to young people the fascination and usefulness of physics and astronomy. It is important to increase the uptake of physics as a degree subject, particularly for women.

The Institute of Physics and the Royal Astronomical Society

The Institute of Physics and the Royal Astronomical Society should each regard the increased participation of women as part of their core strategy and offer an imaginative lead to the community. Their current initiatives are very welcome and they should look to expanding them. These organisations do facilitate women's networks and support mentoring schemes; in cooperation with international organizations, they should support the increased participation of women worldwide. Both institutions should regularly collect and publish statistics relating to both education and employment and should set up a database and make it widely available.

Heads of university physics departments

Departments should strive for higher participation of women at all levels and should ensure that all students work in a supportive environment and receive good career guidance. Particular care needs to be taken over career development advice given to women, recognizing that they are unlikely to have older female colleagues as a source of informal advice. Departments should encourage women to apply for academic posts and should allow part-time working or job shares for all members of staff who want to spend time with their children whilst continuing with their careers.

Examination boards and schools

Examination boards and schools need to give the highest priority to measures that will increase the number of girls studying physics to A level and at university. Attractive career materials are needed to interest girls in the subject from an early age, so that they are drawn in rather than feel pushed.

Vice-Chancellors

University Vice-Chancellors should ensure that at all levels the university appoints women to senior positions in the same proportion as they are represented on university staff, recognizing that women have much to offer that may be different from men. Promotion must be fair to each gender and there should be an established career path for women who work part time or return to work after a break; men should also be able to opt for reduced duties in order to undertake childcare. They should ensure that procedures for promotion and salary revision are transparent.

The Higher Education Funding Councils

The UK's Higher Education Funding Councils should recognize that the Research Assessment Exercise (RAE) plays a very important role in all academic appointments in physics and astronomy. The RAE needs a transparent policy, binding on all panels, to ensure fair treatment of women. The Funding Councils should insist that universities either justify the inequalities highlighted by the Bett report or take immediate action to raise the pay of women academics to equal that of men.

Research Councils

The Research Councils must review all funding schemes to ensure that there is no gender discrimination, in particular with respect to age, and must monitor/question the fairness and objectivity of peer review. Workshops on the career development and training of short-contract researchers should be organised and coordinated with universities and industry. The research councils should look to funding the better pay and conditions for all contract research workers recommended by the Roberts' report as this would be of particular benefit to women.

Industry

Industry should provide gender-specific initiatives and parental advisory and networking services. There should be opportunities for flexible working patterns, part-time working, job sharing or home-working plus family-friendly practices together with childcare facilities, a mix of maternity packages (paid paternity and maternity leave) and other support mechanisms such as crèche facilities. Technical training should also be provided during a transition period back into employment.

Central Government

Central Government, as both a consumer and a sponsor of science, has a clear responsibility to promote gender equity. There should be continued support for all organizations that encourage people to be better informed about science. Institutional discrimination in science, education and technology (SET) employment should be broken down by severing assumed ties between chronological age and experience. Government should remove the financial disincentive to employers of operating a job-share and should provide good statistics that will enable the community to establish the efficacy of any future initiatives. Monitoring and evaluation systems should be embedded in all schemes. There should also be more government support for awareness-raising activities and more women promoted to senior and policy-making positions.



A second report which has been published recently is the very important **Greenfield Report**, which is available on http://www.set4women.gov.uk/set4women/research/the_greenfield_rev.htm
The following preface has been extracted from the report, to give you a taster.

SET Fair **A Report on Women in Science, Engineering and Technology**

from The Baroness Greenfield CBE to the Secretary of State for Trade and Industry
with Dr Jan Peters, Dr Nancy Lane OBE, Professor Teresa Rees & Dr Gill Samuels CBE

In January 2002 the Secretary of State for Trade and Industry, the Rt. Hon. Patricia Hewitt MP, asked me to prepare a high level report outlining a strong and effective approach for the UK on the difficulties for women in science, with specific points for action. She was concerned that women in science are not appropriately represented in all aspects of the scientific career path, in both the private and public sectors, a concern she shares with the Minister for Science and Innovation Lord Sainsbury, the Chief Scientific Advisor Professor David King and the Director General of the Research Councils Dr John Taylor. There was consensus that something needed to be done, but it was far harder to pinpoint realistic key action points with the potential to be immediately effective.

I was delighted to take up this challenge, as I have a strong personal conviction that any individual should be able to work in science to the extent, and at the level, appropriate for their personal choices, and commensurate with their abilities, but without gender as a constraining factor.

My sights were set on delivering a small number of clear action points to define a new integrated approach.

Our terms of reference were:

- to consider UK activity along with overseas activities and identify priorities for more focused action
- to consider the success and failures of women in science organisations and how they might be more effective
- to consider ways of addressing the apparent blockage of promotion in Higher Education to ensure more women are recognised for their contribution
- to review the outputs of the Women in Science event held at Canada House in May 2000 and comment on whether action is required, and
- to advise on what could be done to improve the recruitment and retention of women in SET, increase the number of women in policy making and recognise women's achievement and contribution to SET (historically and currently).

(Where science is referred to this is inclusive of engineering, technology and information technology)

We set out to identify issues and barriers and decided to pinpoint three actions to be taken forward quickly. An appropriate starting point seemed to be to focus on issues at three different career stages, so three working groups were set up to consider each one.

Firstly, for those starting out, balancing decisions about family or career break with a sustained publication record or gaining experience for career development.

Secondly, being appropriately represented in mid-career on grant panels, on key administration committees and gaining enough management and organisational strategic planning experience.

Thirdly, there was the issue of breaking through the now-notorious glass ceiling.

Baroness Professor Susan Greenfield is Director of the Royal Institution of Great Britain, She is also Professor of Synaptic Pharmacology at the University of Oxford.

Dr Jan Peters Policy Advisor, Natural Environment Research Council (formerly of the DTI Promoting SET for Women Unit)

Dr Nancy Lane OBE is a scientist in Cell Biology at Cambridge University in the Department of Zoology

Professor Teresa Rees is Professor at Cardiff School of Social Sciences, and the Equal Opportunities Commissioner for Wales.

Dr Gill Samuels is Director of Science Policy at Pfizer Global Research Laboratories, Sandwich, Kent

Response to SET Fair Report

Members of WiPG have contributed comments and ideas on the report to the IoP which have been incorporated into its response to the Secretary of State. The IoP welcomed the Report and broadly supported its recommendations. Among the additional points to which it drew attention is the necessity to change the perceptions and attitudes of men working in SET, both in relation to the long-hours culture, to recognizing the different ways in which men and women promote themselves and the importance of increasing the visibility of successful women in SET. The proposal for a Working Science Centre was considered to be an excellent idea and the IoP hopes that it will be adequately funded and established without delay. The problems of implementing equal pay and promotion are discussed; the necessity of attracting more girls into science; and the varied difficulties faced by women in SET in obtaining suitable child care. The concerns about women in academia focused on the unintended distortion of recruitment patterns for women in SET resulting from the Research Assessment Exercise and the lack of a proper career structure for contract research staff (CRS) together with their increasingly uncompetitive salaries. For women in industry it was thought that more focus is required with specific actions to gather data and apply pressure to senior management to address the issues. We look forward to seeing the response from the Minister.

Marjorie de Renck

To all members of the Women in Physics Group who are on email

The Women in Physics Group many-to-many email network is now being set up and almost ready for you to log on.

The purpose of the network is to enable women physicists to communicate with other women in physics about their experiences, interests and concerns as women physicists.

The Greenfield report, returning, top-up-fees, mentoring, glass ceilings and many more topics are present day issues. Join the list and let other women in physics answer your questions or hear your ideas.

To join the network you will ... go to http://networks.iop.org/archives/women_in_physics.html
Add your name and email address and follow instructions.

Each email you send will be received by all who have logged into the network.

You should save the web address above. You can use it to look at archives or log off. This means that you will not have to keep messages in an 'inbox'. You can delete them and then read them later in archives.

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