



Obstacles facing women in science

Baroness Susan Greenfield is a British neuro-biologist and the director of the Royal Institution. She is well known for her outspoken views on women in science and makes regular appearances in the media on the issue. She is not, however, an advocate of gender mainstreaming and sexual quotas

There is a series of problems that women scientists must face at different stages of their lives. The first of these happens in school, when the sexual stereotyping of schoolgirls makes it more difficult for them to choose sciences, certainly the physical sciences, as the teaching and curriculum don't seem to be directly related to life and the time and space scales are very different.

Then you have the worst problem of all, when women try to have their children. It's very hard to come back once you've had a career break and there are two reasons for this. In most other jobs, there is a career structure and you're employed for life – you work for a firm, you have your contracts, with maternity leave and other rights clearly established and expected.

In science, you only have security in your early to mid-30s, when you get a lectureship for example, and even then it's so tenuous. It's very rare for someone on their 20s to have a permanent, secure job, which means they're on soft-money contracts which means you're only as good as the number of papers you publish. If you then take time off to have kids, it means you're competing with men who are two or three years ahead of you even though they're the same age, because they haven't had the same career breaks that you've had.

Although I like to think that the individual trumps gender, women work better in groups; they're not so competitive and they're more consensus driven

These problems are particularly apparent in the world of scientific research, which has to be seen as a special case. I know of no other job where you're on soft-money contracts and your employability depends on being steadily productive.

So how do we address this and, indeed, why do we need to address this? Is it a problem of sexual politics or pure economics?

In my view, it's one of economics. We spend a lot of time and money educating women in science – the science

courses are the most expensive in universities – so if they're not then being used to their full potential, forget about the individuals, we're wasting the country's money.

And women do bring something incredibly valuable to the scientific research arena. Although I like to think that the individual trumps gender, on the other hand, the stereotypes are that women work better in groups, they're not so competitive and they're much more consensus driven. This, of course, can be both good and bad in science, but as much as these stereotypes apply then with both genders working together, they complement each other. We wouldn't ever want a single-sex environment, so the more women who enter this male-dominated environment, the better.

To get to the stage when this inequality is more balanced, we are going to have to address the way in which science is taught from an early age.

I think the way science is taught at the moment discourages people in general. It's not taught in the way that places the emphasis, as it should do, on experiment, on being wrong and being excited and so on. Instead it's all about getting the right answers and ticking the right boxes. This is unfortunate.

Now, boys are very competitive and focussed compared to girls, so they like this system. Girls, and I'm not sure whether this is nature or nurture, tend to like relating things to people and relationships while boys don't have that push and therefore the sciences and things like distilling water and the size of the universe, for example, are intrinsically interesting for them and girls might relate to these experiments and issues completely differently.

Traditionally, for a woman it's important to rear children, establish relationships and be sensitive to other people's needs and reactions and so on, so there has been built in through evolution the need for women to be more communicative. We know, for example, that on the whole girls read earlier than boys and are more linguistically developed than boys. And this is pretty ingrained. In a generic way, I think women are good at weighing up interactions and looking at complex scenarios rather than reaching a focus and a specific answer on things.

Within my own group, I think women are happy dealing

with circuits of the brain and seeing how things interact rather than having a right or wrong, black or white answer to things. Again, I am very nervous about saying that as it is a huge generalisation.

Of course changing this system is not going to be easy. As always, this will come down to money. We need to get governments to ring fence funds for fellowships for anyone who is involved in primary childcare – and here it doesn't have to be a woman, it could be a widower and other men – and on the whole this will be for women. But this costs money.

That way, if you're a woman in science, you would know that you have a 30 per cent chance of getting a grant. It's not in any way assured but it's not like winning the lottery. This should be something that's realistic.

While this may sound like gender mainstreaming, it's not. In general, I am against this. I would hate to have got where I've got just because I am a woman. I don't like positive discrimination. In a sense it's rather a Pyrrhic victory, but I would just not like to see people being discriminated against. If you are not discriminated against, then your natural talent should shine through. Without discrimination against gender and with this ring-fenced money for fellowships, women will face a far greater chance of using their scientific abilities while still being able to fulfill their responsibilities as primary child carers.

Access to funding is an issue that's hard to debate from a gender perspective. I don't know if it's actually harder for a woman to obtain funding than for a man.

To get to the stage when this inequality is more balanced, we are going to have to address the way in which science is taught from an early age

It's a hard one for me to address because I've never been a man. That's the problem because there isn't necessarily a man who's just like me, so you can't compare. But access to funds for original research never is easy. That's true across the board – because I'm me and not because I'm a woman. That situation isn't getting any better, either. People are getting more risk averse compared to how they used to be and it's because we have such an audit-written mentality with money being tight and research getting ever more expensive.

This is a huge issue. There are some key areas of focus for scientific research that we must be looking at right now – convergent technology, like nanotechnology, is very new to us and very important. We should also be looking at the brain because that's really where the focus for disabilities and problems are going to lie.

The media has a big part to play in all this, too but firstly, the popular media needs to stop making things up as they go along. They need to access the correct information through the official media centres. Sensationalism isn't helping and neither is being so short term. Of course they can hype things up and sell papers, but it's not necessarily true and it does alarm people and this isn't serving society very well. ★



Ring-fenced money for fellowships for women will help

★ With more than 80 member organisations in over 30 countries, the European Platform of Women Scientists (EPWS) represents more than 10,000 women researchers. **Maren Jochimsen** and **Isabel Beuter** want to make sure women's talents are utilised to the benefit of European research

Breaking through the scientific glass ceiling

Europe needs cutting-edge scientists

and researchers if it is to become the world's most competitive knowledge-based society. If Europe is to maximise its potential then we cannot afford to exclude those who could contribute, this means that women scientists need our specific support. Women in the EU make up 50 per cent of the student population but hold only 15 per cent of senior academic positions, a figure that we want to see rise.

The full and equal participation of women in science and research has been a priority of EU research policy for the past decade but the goal of gender equality has yet to be reached. Negative stereotypes persist, decision-making bodies remain male-dominated and there is an overall lack of transparency in recruitment procedures. These are all factors which have discouraged women scientists in Europe from playing an active role and have meant that the talents of some of our finest minds have been severely under-utilised.

The history of the European Platform of Women Scientists (EPWS) dates back to the EU conference Networking the Networks, which brought together more than 150 key networkers in Brussels in 1999. The conference resulted in the adoption of a declaration which emphasised the importance of networking as an essential empowerment and policy tool for women researchers aiming to participate in policy debates and advance professionally. The conference set out the basis for future cooperation and action.

In its action plan of December 2001 on science and society, the European Commission (through the Research Directorate General) announced the setting-up of EPWS to bring together networks of

women scientists and organisations committed to gender equality in scientific research. The goal of real gender balance in science and research is still a long way from being achieved, and the result is that we are all losing out.

The Center of Excellence Women and Science (CEWS) in Bonn won the contract and, with the support of a Board of high-ranking women researchers and network representatives from different disciplines and countries, EPWS was established in November 2005. Under Belgian law (AISBL) EPWS was formed as an international non-profit organisation, receiving its initial grant as Specific Support Action under the Sixth EU RTD Framework Programme.

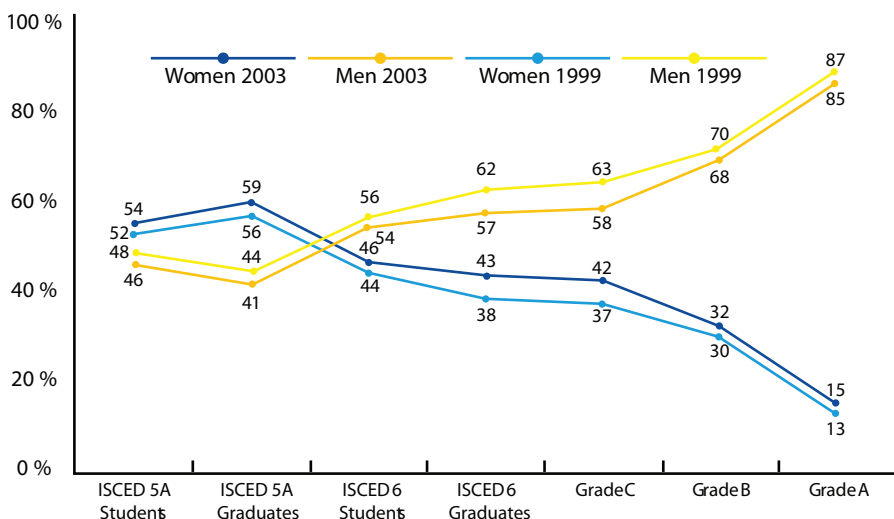
EPWS is an umbrella organisation specifically focused on bringing together

networks of women scientists and organisations committed to gender equality. This encompasses research in all disciplines currently ongoing in Europe, and the countries associated with the European Union's Framework Programmes for Research and Technological Development. EPWS currently has more than 80 member organisations, representing over 10,000 researchers.

One of the core tasks of the European Platform of Women Scientists is the representation of the interests, needs, concerns and aspirations of women scientists in the research debate on the European level. In this task EPWS seeks to influence the decision-making process on European research policy through negotiations with key opinion formers and



EPWS Board of Administration, Staff, Project Coordinator and Project Officer



Definition of grades:

A: The single highest grade/post at which research is normally conducted

B: Researchers working in positions not as senior as top position (A) but more senior than newly qualified PhD holders

C: The first grade/post into which a newly qualified PhD graduate would normally be recruited

ISCED 5A: Tertiary programmes to provide sufficient qualifications to enter into advanced research programmes & professions with high skills requirements

ISCED 6: Tertiary programmes which lead to advanced research qualifications (PhD) (Source: European Commission, Women & Science: Latest Statistics and Indicators - She Figures 2006, p. 55)

Proportions of men and women in a typical academic career, students and academic staff, EU-25, 1999-2003

stakeholders. The Platform's emphasis on networking and raising the profile of women scientists has been particularly effective in this respect. By drawing attention to major success stories EPWS can help break down negative perceptions and encourage women scientists to actively engage in European research and innovation.

The first step in getting involved in the policy debate is monitoring the decision-making process in the area of research and gender equality, followed by drafting written statements on the Platform's position on policy and legislation to be adopted. The Platform's current research policy activities focus on three interrelated issues: the Seventh Framework Programme for Research and Technological Development, the EU's Lisbon Agenda and an overall commitment to excellence and innovation. These are all issues of crucial importance to the future of Europe, and their very centrality gives some idea of the determination of EPWS to play a full part in shaping it.

EPWS constitutes a new strategic instrument in European research policy, complementing the various European-level

initiatives aimed at raising the number of women scientists participating in research and the research policy process. It is especially important that this goal be achieved within the EU Framework Programmes for Research and Technological Development.

EPWS calls for special attention to equal opportunities in both research and research policy. It also encourages the maintaining and development of instruments to ensure the consideration of gender balance and gender mainstreaming in European research policy. Through its monthly newsletter and interactive website, position papers on research policy issues and other targeted information material.

EPWS offers information and expertise in European research policy and also find experts on the promotion of gender equality and European research policy for seminars, boards, panels and project partners. Through these wide-ranging activities EPWS hopes to further the cause of European research and innovation while simultaneously encouraging and inspiring the aspirant young scientists of the future to pick up the mantle. ★

At a glance

EPWS History

February 2005: CEWS signs EU

contract for the creation of EPWS
November 2005: EPWS legally established in Brussels as an international non-profit association under Belgian law (AISBL)

March 28, 2006: official Launch Event for the Brussels community

October 20, 2006: first Network Event in Brussels

April 27-28, 2006: first General Assembly in Brussels

The Center of Excellence Women and Science CEWS, founded in 2000, has established itself as the national node for the realisation of equal opportunities in science and research in Germany. CEWS serves as a think tank for this field of policy, initiates alteration processes and actively co-organises the required transfer processes between science and politics. The scope of CEWS activities is international. CEWS is a unit within GESIS - German Social Science Infrastructure Services e.V., a member of the Leibniz Association.

www.epws.org & www.cews.org

Maren Jochimsen & Isabel Beuter



EPWS Secretary-General & CEWS Project Coordinator

Maren Jochimsen holds a Doctorate in Ecological Economics and previously worked at Harvard. Isabel Beuter holds an M.A. in Sociology, Political Science and English.



[Q&A]

Adelheid Ehmke

Addressing the gender imbalance

The European Platform of Women Scientists' (EPWS) President **Dr Adelheid Ehmke** has an extensive background in academia and administration. With such strong credentials she is well placed to comment on the position of women in science and the challenges they face

The European Platform of Women Scientists seeks to support the work of a range of national and regional networks of women scientists by 'networking the networks'. The Platform aims to make women scientists see themselves as stakeholders and better understand the role they can play in the research policy debate and how to fully benefit from these opportunities. In order to be inclusive, the Platform follows a wide definition of the term 'science'. EPWS is open to any researchers in any discipline taught at university level, but also welcomes women scientists working in engineering and technology. In this interview we explore the aims of EPWS and what they stand for in an environment where they have to fight that little bit harder for the recognition they deserve.

eStrategies: What is the role of EPWS in EU research policy?

Adelheid Ehmke: The role of the Platform is to represent the interests and aspirations of women scientists in EU research policy and to promote the understanding and inclusion of the gender dimension in science. This is with the primary aim of enhancing the participation of women in both research and research decision making. EPWS supports the work of networks of women scientists from all disciplines and strengthens links and collaboration between women scientists, particularly in Central and Eastern Europe and in the private sector. EPWS offers a discussion forum for women scientists and policy makers at regional, national and EU level, and acts as a structural link between women researchers and research policy makers in Europe.

eStrategies: Are women in the Information and Communication Technology (ICT) sector an endangered species?

Ehmke: Women are still underrepresented in science and technology in Europe. According to the statistics and indicators of the European Commission on women and science (She Figures 2006), women made up only 29 per cent of those employed as scientists and engineers in 2004, and in 2003 only 18 per cent worked in the business sector. In the ICT sector, the proportion of female PhD's in computing reached only 18.6 per cent. Even more worryingly, the numbers of women, though it has never been particularly high, is actually dropping rapidly in both the US and Europe. Efforts are being made to reverse this trend. The European Commission is trying to encourage more women to take up a career in ICT via initiatives like the launch of a shadowing exercise, working together with leading companies in Europe to give young women a taste of what a job in ICT would be like. The Commission also plans to develop a European guide to best practices on ICT gender issues in 2007.

eStrategies: How does EPWS promote women in ICT?

Ehmke: EPWS's particular focus on ICT is a reflection of the fact that ICT is of paramount importance to research and higher education. Therefore it encompasses both academia and the business sector. In view of the consensus that has developed on the value of diversity, the participation of women in science, research and in the research policy debate has to be viewed as a priority if we are to achieve excellence and innovation in research.

EPWS, therefore, actively contributes to improved networking activities for women in ICT and has worked to raise awareness about the situation of women in ICT at various conferences. At the IST 2006 Conference in Helsinki, EPWS organised a networking session in cooperation with WINNET EUROPE, the European Network of Women Resource Centers, in partnership



with CWIT, the American Center for Women and Information Technology. The main goal was to share experiences and facilitate the creation of a European Center of Women in ICT, as well as to explore the possibility of establishing a Network of Excellence under the Seventh EU Framework Programme for Research and Technological Development.

EPWS also provides contacts for high-profile women scientists of all disciplines to gain positions as keynote speakers, panel members and evaluators, alongside our role of identifying funding and support opportunities for women in science.

eStrategies: Why is cooperation with EPWS of interest to companies in the ICT sector?

Ehmke: EPWS offers membership to companies that wish to demonstrate their support for the promotion of women scientists in the industrial sector and more particularly in the ICT sector. Joining EPWS as a supporting member, or sponsoring one of the Platform's activities or projects, allows companies to establish and increase their visibility in the European research community as well as among European research policy actors. At present the EPWS database contains detailed information on more than 160 networks in Europe. Through EPWS's direct contacts with scientific networks and researchers from all disciplines across Europe, companies will be able to attract a new well-trained workforce committed to enhancing innovation and development.

In the future, EPWS will reinforce links between universities and enterprises, facilitate information exchange between them, and develop pilot projects like the creation of women scientists' and women engineers' networks at the enterprise level, or a job alert for EPWS supporting members and sponsors. EPWS aims to start a data base of good practices. It will also offer role models and encourage mentoring activities in order to attract more women toward scientific careers in ICT, suggesting innovative areas of activities for companies in the ICT sector.

eStrategies: What are the main factors responsible for the situation of women in research in Europe? Are there specific obstacles for women?

Ehmke: The factors that lead to the under-representation of women in science and research decision making are manifold. They include lack of gender awareness and persistent gender stereotypes, predominantly male decision-making bodies and insufficient network support with respect to women's career advancement. Also, the lack of transparency in recruitment procedures, gate-keeping and the operation of 'old boys networks', to which women often do not have access, have an important influence on reaching the top level. The gender pay gap is a serious issue in all the EU countries and concerns all

fields of the employment market, including education, research, universities and especially, however, industrial research. Often, there is an unintended gender bias in current ways of defining and evaluating scientific excellence which might work to the disadvantage of women. Furthermore, the general insecurity and openness of scientific careers as well as the absence of infrastructures to enable a sustainable work-life balance, although an issue concerning both women and men - together with traditional images of the division of labour in family structures - still has a greater impact on the career development of women.

eStrategies: Are gender promotion issues a territory only for women? If a man would like to join your organisation would it be considered?

Ehmke: EPWS is an umbrella association, open to networks and organisations that promote women in research and the inclusion of the gender dimension in all areas of research. Men can be and are members of such networks and organisations. However, men's involvement could be stronger and, therefore, we encourage male researchers to actively promote equal opportunities in science.

EPWS offers a discussion forum for women scientists and policy makers at regional, national and EU level, and acts as a structural link between women researchers and research policy makers in Europe

eStrategies: What would be your vision of the future regarding your initiative?

Ehmke: The participation of women in science and research and in the research policy debate is not only a fundamental human right of women scientists, but also a matter of justice. In view of the acknowledged discussion on the value of diversity, it has also to be

seen as essential to achieving excellence and innovation in research and ensuring a sustainable scientific quality of research.

EPWS has to be more than a temporary initiative. It has to grow into a sustainable association with strong political impact. To achieve its goals, EPWS needs the support of strong partners from the public and private sectors and seeks the cooperation with public institutions, companies and foundations. ★

Located in Brussels, the European Platform of Women Scientists supports the work of a whole range of existing national, European and international networks of women scientists from all disciplines (natural, medical and social sciences, engineering and technology, the humanities and arts).

Rue d'Arlon 38
B-1000 Bruxelles
t: +32-2-234 37 50
f: +32-2-234 37 59
contact@epws.org
www.epws.org

