

Take the lead

It's an old issue — how do we tackle the under-representation of women at all career levels in physics research — but are there any new answers?

Last month, a workshop entitled *Gender Equity: Strengthening the Physics Enterprise in Universities and National Laboratories* took place at the headquarters of the American Physical Society in Maryland, with the stated aim of facilitating a doubling of the number of women in physics over the next 15 years. The under-representation of women in research careers in physics is proving a tough nut to crack. Why would this workshop, ahead of many other well-meaning efforts, come any closer to a solution?

What was remarkable about the Maryland workshop was its participants: chairs from 50 major physics departments across the USA, 14 division directors of national laboratories units, and leaders from the National Science Foundation and the Department of Energy. After all, if there is to be change, it has to come from the top.

In the list of preliminary recommendations from the workshop, many begin with the words “leaders should”. Leaders should “set a code of conduct”, “make expectations clear”, “be aware of subtle biases” and so on. Many of these recommendations are easily recognizable as good management practice. A good manager creates the appropriate atmosphere in which all team members can thrive, each being encouraged to play to their strengths, and, through their collective effort, carry the interests of the team forwards. That picture doesn't necessarily describe the average physics research group — although it probably should.

Times are changing. Team work and collaboration are increasingly prevalent in research, and demand wider skills of even the most brilliant of physicists. This move away from “the more traditional, competitive scientific culture” — as recognized in *The Pasadena Recommendations on Gender Equality in Astronomy* of 2003 — is likely to benefit women in research, as is increased emphasis on effective mentoring.

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The single biggest issue to face, of course, is that of children. The playing field will never be level on this score, but women should not be faced with the choice of having either children or a scientific career: men have both, why shouldn't women? The Maryland workshop has made specific “Recommendations to Funding Agencies” on this issue. These include that the eligibility window for post-doctoral researchers to apply for young-investigator or start-up grants be extended by the amount of time that the researcher has taken off for child-rearing; and that maternity leave be noted in the annual report for a grant, so that the absence may be taken into account in judging progress and renewal of the funding. Unfortunately the recommendations fall short on one vital issue: although noting that maternity or family leave may “adversely affect the

research of the advisor”, this ball is simply thrown into the court of the funding agencies, suggesting they “develop methods of addressing the issue”.

Extensions and allowances are all very well. For all that there might be some move away from outright competition at the level of the individual towards cooperative teamwork, in the community at large the competition that has always driven research forwards will be there still. Your competitors on the other side of the world won't be making allowance for the slower progress of research in your group due to family-related absences. There is a need, therefore, to keep firmly in sight exactly how science works.

Because times have changed. The typical motivation stated now for improving women's representation in science is not that it is a matter of rights, or a feel-good notion, but a reason of economic necessity. In a changing world, the competitiveness of a nation has come to the fore, and there is a need to draw on, as the Maryland recommendations state, “the entire available pool of talent”.

The solution to how to do that isn't quite there yet. But the efforts of the Maryland workshop, and the reasoned language of its report, give cause to hope. And it is heartening that one point, often made in such reports but usually buried, is spelled out in the opening section: that the benefits of working in a truly diverse research community would be felt by women and men.