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Let's make it happen

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Let's make it happen: for gender equality in science!

Everyone who paid attention to the Google Doodle on March 23 encountered a picture of Emmy Noether (1882–1935)¹ surrounded by mathematical related images. However, few would know that she was a brilliant mathematician whose theorem served as an essential tool for the development of modern-day physics and the calculus of variations. Nevertheless, she constantly struggled with sexism obstacles such as being denied an academic position for many years. One would think that much should have changed since then in how professional women are viewed and treated. Has it really? Our own experience and some recent incidents associated with public figures have prompted us to look at what is happening in our own backyard.

At the 2014 IPCC meeting in Singapore and the SMR meeting in Zürich, we were pleased with what seemed like a balanced distribution of women and men attendees and speakers. SMR has now started a *Women in Science Forum* at its annual meeting, and a similar Discussion Group took place at the ESPCR 2015 meeting in Edinburgh. It struck us that, perhaps, our Societies' efforts to promote gender equality in our fields have been successful and put us one step ahead of several current reports that claim the existence of strong gender inequality in the sciences and academia in general. A quick scan of the membership roster of our societies (PASPCR, ESPCR, SMR) shows, however, that <25% of full members are women. This may reflect the much discussed situation that although women constitute more than half of the graduate student population, they tend to either leave science altogether or take on non-leadership positions. Several studies have shown that unconscious bias against women in science and academia is still pervasive. In particular, we would like to quote an informative report by The New York Stem Cell Foundation's Initiative on Women in Science and Engineering (IWISE) which confirms what we unfortunately know: women tend to be paid less, may be discriminated in promotions, and receive fewer grants than their male colleagues (Smith et al. Cell Stem Cell 2015). We are fortunate that some not-for-profit organizations stand out for escaping this bias. For example, half of this year's Established Research Awards by the Melanoma Research Alliance were awarded to female scientists following a rigorous peer-review process. Still, gender equilibrium is far from being accomplished in high responsibility positions in academia and industry.

We are aware that reducing gender inequality requires profound societal and economical changes. Concrete

actionable strategies have been proposed by IWISE to be undertaken by academic institutions, funding agencies, and stakeholders that have the power to act at a political level. We then reflected on what could be done at the individual level or collectively.

Issue 1: Family life. Science is a competitive arena, and demands passion and commitment well beyond standard working hours and routines. It can be very difficult for parents (male and female) to succeed at this level while also providing the best care and attention to their children. In particular, in our experience, we find that mothers especially need support and mentorship during these early childhood years to help them accomplish their academic goals. Some of this support can come from colleagues. In addition, we advocate on-site daycare centers with sufficient coverage to minimize traveling and provide sufficient flexibility for parents. Social and scientific networks should also be encouraged to help mothers (parents) to remain focused and maintain their productivity. We believe that Laboratory Heads and Program Directors have a particularly important role to play in this context. Meetings, as well as timelines and guidelines for promotions, can be adjusted to take into account standard working hours, maternity-related leaves, and stop-the-clock arrangements. While these actions will, at least initially, help mothers in particular, the ultimate objective should be to support parents and caregivers regardless of gender.

Issue 2: Perception as Leaders. Leadership is an autonomous quality, but also requires acceptance by others. Frequently, women have to provide more evidence of being competent, and their work tends to be undervalued compared to that by their male colleagues. Here, we highlight a recent paper by Leslie et al. (Science 2015) indicating that gender inequality is higher in those fields where success is perceived as a reflection of innate brilliance instead of hard work. Such unconscious bias needs to be identified and addressed. Mentorship programs should also be geared to encourage women to be more active players, voicing concerns, applying to fellowships (and memberships), and nominating themselves for positions of responsibility. Very often we observe insecurities in well-accomplished females. *Women: it is time to act here as well!*

Issue 3: So-called Female and Male Qualities. It is not unusual for females to be seen as naturally conciliatory and nurturing and more suited for supportive and guidance roles. As such, women tend to be called on often to be involved in time-consuming tasks such as

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participation in committees in order to help foster consensus opinions. On the other hand, many women, including ourselves, have faced criticism for behaving in a prototypical 'masculine way', such as being assertive, ambitious or self-promoting, and when we decline to take on more administrative functions, we are being considered uncooperative or selfish. We do, however, recognize that women participation in committees has been one of the most effective measures to promote gender equality. We must move beyond male/female stereotypes (neither heels nor ties enhance or diminish the IQ!). Those of us in positions of responsibility should strive for unbiased evaluations and challenge any perception of discrimination, all the while requesting equal participation by our male peers. We also encourage institutions to recognize administrative tasks as positive elements on a CV.

Issue 4: Remuneration. Financial gain is not the main reason why most embark on a scientific career. But family life is expensive, especially when caregivers need to be at the laboratory rather than at home. Universities and Institutes must examine if the postdoctoral and PI salaries are on par with other highly skilled professions to avoid unsustainable pressures on family life. Importantly, imbalances between male and female pay scales (Shen, H. Nature 2013) need to be corrected so merit prevails

over gender. Here, we support the IWISE recommendations for financial supplements within grants to help manage their household so parents can spend more time on science. Extra support is particularly important during demanding times of grant writing and attendance at conferences and meetings. Institutions with such policies should also be rewarded for their efforts.

In summary, we advocate that our Societies and those in positions of responsibility serve as role models for proactive behavior in this regard so that merit, and not gender, becomes the defining factor for hiring and promotion in science. The Editors and the editorial policies at PCMR will continue encouraging these values. In this regard, we welcome initiatives by the Pigment Cell and Melanoma Research Societies to dedicate time within their yearly conferences for active discussions about gender equality, both at the junior and senior levels.

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Note

¹<https://www.google.com/doodles/emmy-noethers-133rd-birthday>.