

Key Recommendations from Women in Plasma Physics Lunch at EPS2025 for Improving Gender Balance in Plasma Physics

- **Promote Female Role Models:** Highlight women at all career stages—from early education to senior positions—to inspire and encourage girls and young women to pursue science.
- **Value and Expand Outreach:** Increase and recognize outreach activities, especially those targeting female students and children, to broaden participation.
- **Institutionalize DEI Efforts:** Make diversity, equity, and inclusion (DEI) measures for professors and decision makers, not just students.
- **Address Unconscious Bias:** Use tools to check for bias in job ads and ensure hiring panels include HR representatives with relevant training. Offer flexible working arrangements and recognize that bias can affect both panel members and applicants.
- **Support Women's Participation at Conferences:** Continue improving gender balance among speakers and session chairs. Enable self-nomination for talks, provide financial support for participants with dependents, and consider regular public lectures by women scientists.
- **Global Perspective:** Recognize the low representation of women in some regions (e.g., ~10% in South Korea's KSTAR program) and the need for more young female role models, especially in Asia.

Key Benefits of Better Gender Balance

- **Wider Talent Pool:** A more balanced environment attracts and retains a greater diversity of talent, increasing the overall quality and capability of the field.
- **Enhanced Innovation:** Diversity brings new perspectives and ideas, fostering creativity and challenging established approaches.
- **Reduced Pressure on Minorities:** When representation improves, individuals from underrepresented groups no longer feel the burden of representing their entire group.
- **Role Models for the Next Generation:** Young people benefit from seeing diverse examples of success, which encourages broader participation.
- **Richer Scientific Dialogue:** Different genders and backgrounds contribute varied ways of thinking, ensuring a broader range of questions and approaches to promote the quality of the science.

Key Strategies to Increase Representation and Support

- **Proactive and Coordinated Nominations:** Encourage laboratories and research groups to actively nominate qualified women and underrepresented speakers when calls go out, and improve coordination among smaller groups to ensure deserving candidates are not overlooked.
- **Understand and Address Barriers:** Investigate why some women decline invitations to speak and provide targeted support, such as supervisor encouragement and confidence-building, to help more women feel ready for plenary talks.

- **Mentoring and Networking:** Establish mentoring schemes, speed mentoring sessions, and networking events (e.g., dinners instead of lunches) to build confidence, foster career progression, and create a supportive community for women in plasma physics.
- **Create and Use Registers and Networks:** Develop a register of women in plasma physics (with attention to data protection) and broader gender balance networks to facilitate nominations and ensure both women and allies are included.
- **Raise Awareness and Motivate Nominators:** Motivate nominators—especially men—to seek out female candidates, and increase awareness of the gender gap through presentations and statistics shared with wider audiences, not just at women-focused events.
- **Adjust Evaluation Criteria:** Consider flexible criteria for awards (e.g., allowing longer periods between PhD and early career evaluation for women) to account for diverse career paths.
- **Support Women’s Voices in Leadership:** Leaders should actively encourage women to participate in meetings and ensure their contributions are recognized.

Diversity Challenges in Fusion and Plasma Physics

- **Diversity Goes Beyond Gender:** True diversity includes nationality, culture, and lived experience, but the field remains conservative and leadership is still dominated by white men, especially in Europe.
- **Systemic Issues:** Educational pathways can reinforce existing imbalances, and a lack of diverse role models at the top perpetuates underrepresentation among early-career scientists.
- **Barriers for Minorities:** Communication challenges and the need to “prove oneself” are more pronounced for those from minority backgrounds. Work-life balance and mobility expectations also disproportionately affect those with family responsibilities.

Solutions and Forward-Looking Ideas for the diversity challenges

- **Change from Within:** Encourage individuals to learn how to navigate institutional systems, build negotiation skills, and become part of the structure to drive change.
- **Evolve Mentorship:** Move beyond traditional mentorship by supporting reverse mentorship (across age, gender, and background) and fostering informal support networks.
- **Broaden Representation:** Actively invite more women and international experts as speakers, panelists, and decision-makers at conferences and in leadership roles.
- **Value Non-Linear Careers:** Recognize and celebrate alternative career paths, including breaks or late entries into the field, and highlight contributions from those with diverse backgrounds or from other disciplines.