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Achieving Gender Equality in Science, Engineering and Medicine

Seven Actionable Strategies for Advancing Women

(March 5, 2015) – Gender equality has not yet been achieved in science, medicine, and engineering, but The New York Stem Cell Foundation (NYSCF), through its Initiative on Women in Science and Engineering, is committed to making sure progress is made. NYSCF convened the Inaugural Meeting of its Initiative on Women in Science and Engineering (IWISE) Working Group in February 2014, where the group put forward seven actionable strategies for advancing women in science, medicine, and engineering, and reconvened in February 2015 to further develop the strategies.

NYSCF began this initiative after an analysis of its own programs. "We found that the ratio of men and women in our own programs was OK but it could certainly be improved," said Susan L. Solomon, CEO and Co-Founder, of NYSCF. "We wanted to take action and actually make tangible progress, so we brought together many of the leading men and women who have already committed time, energy, and resources towards this problem."

Today, the recommendations were published in *Cell Stem Cell*. They were divided into three categories: direct financial support strategies, psychological and cultural strategies, and major collaborative and international initiatives. The group chose to highlight the most high-impact and implementable strategies from a larger list developed during the meeting. They also sought to promote promising, long-term initiatives that will require significant collaboration among multiple stakeholders with the aim of connecting potential partners.

"Advancing women in science and medicine is of critical importance to the academic and research enterprise in our country," said Dr. Marc Tessier-Lavigne, President of Rockefeller University. "This paper is important as it not only brings attention to this key issue but also outlines creative strategies that can help break down barriers to gender equality in science."

Changing financing structures, embedded cultural norms, and tying funding to gender balance to enact real change are the pillars underlying the seven strategies recommended by the Working Group.

"The brain power provided by women in science is essential to sustaining a thriving US society and economy. It is time to move beyond just lamenting its loss and embrace the actions called for in this timely report," Dr. Claire Pomeroy, President, the Lasker Foundation and a member of the IWISE Working Group.

The seven strategies include:

- 1) Implement flexible family care spending
- 2) Provide "extra hands" awards
- 3) Recruit gender-balanced external review committees and speaker selection committees
- 4) Incorporate implicit bias statements
- 5) Focus on education as a tool
- 6) Create an institutional report card for gender equality
- 7) Partner to expand upon existing searchable databases of women in science, medicine, and engineering

The IWISE Working Group reconvened in February 2015 to continue to work on the Institutional Report Card for Gender Equality. The paper published today includes the proposed Phase 1 Institutional Report Card, and the group plans to release the Phase 2 report card once finalized.

The IWISE Working Group hopes that funders and institutions will join with NYSCF to implement these and other policies, so that progress can continue to be made.

Appendix A includes further details about the seven recommendations. To learn more about this initiative please visit the NYSCF website at www.nyscf.org/research/iwise.

Kristin Smith and Susan L. Solomon of The New York Stem Cell Foundation, Dr. Paola Arlotta of Harvard University, and Dr. Fiona Watt of King's College London, are the co-authors of the paper.

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About The New York Stem Cell Foundation

The New York Stem Cell Foundation (NYSCF) is an independent organization founded in 2005 to accelerate cures and better treatments for patients through stem cell research. NYSCF employs over 45 researchers at the NYSCF Research Institute, located in New York, and is an acknowledged world leader in stem cell research and in developing pioneering stem cell technologies, including the NYSCF Global Stem Cell ArrayTM. Additionally, NYSCF supports another 60 researchers at other leading institutions worldwide through its Innovator Programs, including the NYSCF – Druckenmiller Fellowships and the NYSCF – Robertson Investigator Awards. NYSCF focuses on translational research in a model designed to overcome the barriers that slow discovery and replaces silos with collaboration. For more information, visit www.nyscf.org

Appendix A

The first two strategies focus on direct financial support:

1) Implement flexible family care spending

This strategy would enable grantees to use award funds for family-related expenses, such as childcare and eldercare, that would allow individuals to travel to meetings, conferences, and workshops that may be important for early career advancement. These awards would be gender neutral and the Working Group has called for biomedical funders to implement this policy.

2) Provide "extra hands" awards

This recommendation suggests that grant making organizations and institutions set up genderneutral award programs that would provide primary caregivers funding to hire technicians, administrative assistants, or postdoctoral fellows when they become primary caregivers.

The following three strategies focus on psychological and cultural change:

3) Recruit gender-balanced external review committees and speaker selection committees Organizations that fund research and convene meetings should assemble gender-balanced review and speaker selection committees. Research has shown that the presence of one woman on a speaker selection committee correlates with much higher proportion of invited female speakers. The Working Group believes that women on review committees would see similar results with a higher proportion of female applicants being awarded grants.

4) Incorporate implicit bias statements

To mitigate the subtle and unconscious gender biases that exist throughout society, and specifically in science, it is suggested that grant-making organizations include "implicit bias statements" into their external review processes.

5) Focus on education as a tool

Institutions, grant makers, and scientists must commit to education as a tool to make progress towards gender equality, for example, through hosting and providing training seminars, workshops, and discussions, and share these resources with the scientific and lay community as widely as possible.

The final recommendations include two major collaborative and international initiatives:

6) Create an institutional report card for gender equality

The IWISE Working Group recommended that a set of quantifiable criteria be analyzed to develop an Institutional Report Card for Gender Equality that would evaluate institutions on a specified set of practices resulting in a gender equality grade being assigned. Eventually, grant-making organizations should implement policies that would require potential grantee intuitions to maintain a certain grade to be eligible for funding.

7) Partner to expand upon existing searchable databases of women in science, medicine, and engineering

The final recommendation suggests that funders, journals, and intuitions should partner with existing organizations to develop and expand existing, searchable databases of women in science, engineering, and medicine. These resources will make it easier for search committees, conference organizers, institutions, and others to easily identify women scientists for positions and activities such as speaking opportunities, participation in review committees, serving on advisory boards, and others.