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“The Principle of Universality of Science advocates the free and responsible practice of science as fundamental to scientific advancement and human and environmental well-being. Such practice, in all its aspects, requires freedom of movement, association, expression and communication for scientists, as well as equitable access to data, information, and other resources for research.” In this context, many questions arise. One might ask: why are there relatively few women in physics, but more women in the life sciences? Why does the fraction of women in physics decline with seniority, and vary across countries? How do scientists begin to engage with these questions, without diluting the excellence of their own difficult research?

This talk will cover some introductory data, including surveys of physicists. A few useful concepts, including gender schemas, cumulative advantage and disadvantage, and professional schemas will be introduced. Obstacles and barriers are encountered by all physicists, and some of those related to gender will be described.

Approaches to overcoming the barriers are pieces of a jigsaw involving law and policy, national and international initiatives, incentives and rewards, professional development, and improving the workplace culture. A major source of barriers arises when gender schemas are confused with professional schemas, leading to a consistent under-evaluation of women in a profession. The most fundamental remedies that can be applied are to move toward accurate and fair evaluation, to challenge hypotheses, and to make a safe, welcoming and humane environment in which to work.

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