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WOMEN and STEM

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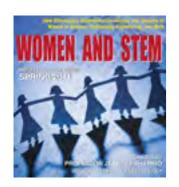https://escholarship.org/uc/item/1pr077wr

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WOMEN and STEM

Organized by Professor Jenessa Shapiro, this Faculty Curator Speaker Series addresses why women are underrepresented and underperforming in the fields of science, technology, engineering, and math

Women earn only 25% of the Ph.D.s in the physical sciences and 15% in engineering. Furthermore, women make-up only 3-4% of engineering associate professors and 6% of physical sciences associate professors. In the workforce, although women constitute half of all employees, they only make-up one-fifth of the nation's scientific and technical workers. Why are women underrepresented and under-performing in science and technology fields? This spring's CSW Faculty Curator series titled, "Women and STEM: How

stereotypes undermine the interest and success of women in science, technology, engineering, and math," addresses this question from a perspective that is very different than what we traditionally hear in mainstream media. That is, previous explanations have focused on biological or socialization factors that may contribute to these disparities. In contrast, this curator series will focus on a phenomenon called *stereotype threat*.

Stereotype threat points to the causal role situational cues play in undermining women's

motivation and performance in STEM fields. Stereotype threat research has found that simple cues in STEM environments, such as identifying one's gender before taking a standardized test or being the only woman in a class, office, or department can highlight the negative stereotypes associated with women in these domains. As a result, women are at risk for distracting stereotype-relevant thoughts that interrupt concentration and undermines learning and performance on a range of activities, including standardized tests. This spring's curator series will bring to

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UCLA leaders in the field of stereotype threat. These speakers will present research demonstrating the emergence of stereotype threat in STEM domains, the mechanism that account for this phenomenon, and the ways in which we can intervene to prevent the deleterious influence of stereotype threat.

STEVEN SPENCER

Known for his essential work in identifying stereotype threat as a challenge to women's performance in STEM fields, Steven Spencer, Professor of Psychology at the University of Waterloo, will speak on April 21th. His talk is titled "A Chilly Climate for Women in STEM: How It Develops and How It Can Be Overcome." His research focuses on motivation and the self, particularly on how these factors affect stereotyping and prejudice. He examines how implicit processes that are outside of people's awareness affect people's thoughts, feelings, and behaviors. In examining stereotyping and prejudice, he looks at how threats to the self-concept can lead to stereotyping and prejudice, and how this stereotyping and prejudice affects subsequent feelings about the self. Professor Spencer's publications include *Motivated Social Perception: the Ontario Sympo-*

*sium, Vol. 9, c*o-edited with Steven Fein, Mark P. Zanna, and James M. Olson (Psychology Press, 2002); "Implicit Self-Esteem, Explicit Self-Esteem and Defensiveness" (co-authored C.H. Jordan) in the *Journal of Personality and Social Psychology* (2003); and "When Do Stereotypes Come to Mind and When Do They Color Judgment? A Goal-Based Theory of Stereotype Activation and Application" (co-authored with Z. Kunda) in *Psychological Bulletin* (2003).

TONI SCHMADER

Toni Schmader, Professor of Psychology at the University of British Columbia, will speak on "Stereotype Threat Deconstructed " on April 28th. Professor Schmader is known for groundbreaking work uncovering the processes that account for reduced performance in stereotype threatening situations: taxed working memory. Her work has focused on the cognitive, affective, and motivational processes that are altered by stereotype threatening situations and the ways in which important working memory resources are hijacked by distracting stereotype relevant concerns. Her publications include "Gender Identification Moderates Stereotype Threat Effects

on Women's Math Performance" in the *Journal of Experimental Social Psychology* (2002); "A Meta-Cognitive Perspective on Cognitive Deficits Experienced in Intellectually Threatening Environments" (co-authored with C. E. Forbes, S. Zhang, and M.J. Johns) in *Personality and Social Psychology Bulletin* 2009); and "Killing Begets Killing: Evidence from a Bug-Killing Paradigm that Initial Killing Fuels Subsequent Killing" (co-authored with Andy Martens, Spee Kosloff, Jeff Greenberg, and Mark J. Landau) in *Personality and Social Psychology Bulletin* (2007).

NILANJANA DASGUPTA

Nilanjana Dasgupta, Professor of Psychology at the University of Massachusetts, Amherst, will speak on May 12. Her talk is titled "STEM-ing the Tide: Female Experts and Peers Enhance Young Women's Interest in Science, Technology, Engineering, and Mathematics." At the forefront of research on implicit stereotypes, Dasgupta investigates experimentally how mental processes influence attitudes, beliefs, and behavior without people's awareness or control. Her recent projects focus on specifying factors that create and magnify stereotypes and prejudice without people's awareness or control, examining their influence on behavior, and developing strategies aimed at undermining such biases. Her publications include "Implicit Measures of Social Cognition: Common Themes and Unresolved Questions" in the *Journal of Psychology* (2010); "Mechanisms Underlying Malleability of Implicit Prejudices and Stereotypes: The Role of Automacity Versus Cognitive Control" in *Handbook of Prejudice, Stereotyping, and Discrimination* (Psychology Press, 2009); and "Color Lines in the Mind: Unconscious Prejudice, Discriminatory Behavior, and the Potential for change" in *Twenty-First Century Color Lines: Multiracial Change in Contemporary America* (Temple University Press, 2008).

JOSHUA ARONSON

Joshua Aronson, Professor of Applied Psychology at New York University, will speak on "Stereotypes and the Nurture of Intelligent Thought and Behavior" on May 19th. Professor Aronson, along with Claude Steele, first introduced the theory of stereotype threat in 1995. Since then, Professor Aronson has continued to explore the role of stereotype threat in undermining the performance of women in STEM fields in addition to developing and testing stereotype threat interventions both in the lab and in the field. Professor Aronson's publications include "Stereotype Threat and the Intellectual Test Performance of African Americans" (co-authored with CM Steele), *Journal of Personality and Social Psychology* (1995); *Improving Academic Achievement: Impact of Psychological Factors on Education, Academic Press* (Academic Press, 2002); *Readings about the Social Animal*, co-edited with Elliot Aronson (Worth Publishers, 2007); and "Stereotypes and the Fragility of Human Competence, Motivation, and Self-Concept" (with co-author Claude M. Steele) in *Handbook of Competence & Motivation* (Guilford, 2005).

Jenessa Shapiro is an Assistant Professor in the Department of Psychology at UCLA. She received her Ph.D. from Arizona State University in 2008. Her article, "Different Groups, Different Threats: A Multi-Threat Approach to the Experience of Stereotype Threats," is scheduled to be published in *Personality and Social Psychology Bulletin.* **She received a CSW Faculty Curator Grant to organize this speaker series.**