

**Public lecture by
Joan Roughgarden
(Stanford University)**



Evolutionary Aspects of Gender and Sexuality

**Thursday, Nov. 18 at 3:30 pm
in Engineering Teaching and
Learning Complex E1-007**

Abstract: The biological theory of gender traces to Darwin's writings on "sexual selection" in 1871. Sexual selection focuses on mate choice, assuming that males compete for females (as the limiting resource) and that a female chooses among males for their hereditary quality. Sexual selection has been used to explain not only the evolution of sex-specific anatomical traits such as the male peacock's tail, but also the evolution of a variety of sex-specific behaviours and gender differences in animals and humans.

Yet the empirical generalizations concerning gender roles that Darwin enunciated have since been refuted by thousands of exceptions, the well-known cases that seemed unexceptional and in accord with sexual-selection's explanations do not support the theory when closely studied, and sexual-selection theory is contradicted by population-genetic analysis. Therefore, sexual-selection theory now appears false and, arguably, is unfixable.

I have proposed "social-selection" theory as a replacement for sexual-selection theory. I will review some aspects of this new approach to the evolution of gender, sexuality, and family social dynamics. The theory of social selection draws on the mathematics of cooperative game theory and the economics of industrial organization.

Joan Roughgarden is Professor of Biological Sciences and Geophysics at Stanford University. She has published more than 160 research articles, primarily in ecology, evolutionary biology, and theoretical biology. In addition to four books in these areas, Prof. Roughgarden has published several monographs that are of interest to a wider audience. Her critique of sexual selection as an explanation of animal gender roles (*Evolution's Rainbow: Diversity, Gender, and Sexuality in Nature and People*, 2004) formed a basis for the 'Against Nature?' exhibition on homosexuality in animals, which has been shown in four European countries. *The Genial Gene: Deconstructing Darwinian Selfishness* (2009) proposes social-selection theory as a novel and controversial framework to explain the evolution of gender, sexuality, and family social dynamics.

The lecture is sponsored by the Departments of Philosophy, English & Film Studies, and Sociology, the 'Situating Science' SSHRC cluster grant, and Exposure: Edmonton's Queer Arts & Culture Festival.