"Between the conception and the creation: Uncertainty, commitment, and the innovation of penicillin"

Andrew B. Hargadon  
Soderquist Chair in Entrepreneurship  
Professor, Graduate School of Management, UC Davis

Penicillin represents both one of the most significant medical breakthroughs of the modern era, and one of the most widely known and misrepresented histories of scientific discovery. Historical narratives of scientific discovery and innovation typically focus on the causal roles of chance and novel insights. Modern narratives focus on the linear model of innovation from research funding to scientific breakthrough to technology transfer or entrepreneurship. Lesser but still appreciated roles are granted to the efforts and accomplishments needed to convert those insights into shared facts, artifacts, and institutions. However, recalling T.S. Eliot, between the idea and the reality, the conception and the creation, falls the shadow. Largely ignored in historical narratives are the central roles of uncertainty and commitment in connecting the conception and the creation of penicillin. This talk draws from historical records of those involved in penicillin's development to construct new theory accounting for the roles of uncertainty and commitment in the innovation process, and explores the broader implications for research and the role of researchers in innovation.