

NORTHWESTERN INSTITUTE ON COMPLEX SYSTEMS PRESENTS

Wednesdays

@NICO

*Academic Laboratories and the Reproduction of Proprietary Science: Modeling Organizational Rules through Autocatalytic Networks**



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Wednesday, November 4th 2009
12:00 - 1:00 PM
(Refreshments served at 11:45)
Chambers Hall, 600 Foster St.
Lower Level Classroom

We examine the emergence of proprietary science in the academy, specifically as a set of rules that came to define how university research findings should be commercialized. Drawing on detailed archives of life scientists' early invention disclosures we demonstrate how patenting practices originated in labs, rather than legal definitions or policy incentives, and developed in a manner that cannot be separated from the actual production of science. Our investigation also suggests several, specific mechanisms that contribute to the emergence of proprietary science: 1.) a population-level mode of learning through natural selection and lab replication, reflecting how scientific labs produce both knowledge and scientists; 2.) a lab-level, experiential form of adaptation through participation in a chain of knowledge production; and 3.) a lab-level preemptive form of adaptation through anticipation of others' actions. We operationalize these insights into a computational, agent-based model that demonstrates how disclosure rules can develop and persist in particular forms without top-down coordination or centralized control. Moreover, experimentation with the model suggests that moving from a world where very little patenting exists, to one where it is the norm across a population of labs, is more likely to occur when lab replication is coupled with a preemptive, forward-looking lab adaptation mechanism, than when it coincides with a participatory, backward-looking form of lab adaptation. *Co-authored with Spiro Maroulis - Kellogg School of Management.

NICO Coffee Hour will follow for questions, networking, and collaboration.

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