15.357 – Economics of Ideas, Innovation, & Entrepreneurship

Tuesdays 6:00-9:00pm
E62-450

This course begins with an introduction to the economics of ideas and uses the economics of ideas to evaluate the origins of invention and discovery, innovation, entrepreneurship, and the diffusion of new technology. The focus throughout is on the microeconomic and institutional foundations for phenomena that have been studied mostly at an aggregate level. The course focuses on (a) the micro-foundations of the knowledge production function (including the role of creativity and the impact of Science), (b) the impact of institutions and strategic interaction on the commercialization of new technology, and (c) the diffusion and welfare impact of ideas and technology. The course emphasizes how the unusual characteristics of ideas can result in social inefficiency, and how the microeconomic and institutional environment influences the gap between private and social welfare. The course includes a mixture (and explicit comparisons of) both theoretical and empirical research.

Requirements:

- two group homework assignments (due October 6th and November 24th);
- two individual “referee” reports (out of a possible seven pertaining to working papers which we have highlighted in red on the syllabus);
- a succinct individual paper proposal, three to five pages, on a topic germane to the class, due on the last day of class (December 1st);
Administration:

- readings, the current version of the syllabus, assignments, and class slides are available through Stellar;
- please contact Tetyana Pecherska, tetyana@mit.edu, for access to Stellar or other questions about course logistics;
- there are no “official” office hours; please feel free to make appointments with Scott or Pierre individually or together.

Schedule at a Glance

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<th>Class</th>
<th>Topic</th>
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<td>Ideas, Innovation, and Economic Growth</td>
<td>September 15</td>
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<td>Class 2</td>
<td>The Nature of Ideas and Innovation</td>
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<td>Class 3</td>
<td>The Supply of Innovators</td>
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<td>Incentives for Innovators: Contracting and Control Rights</td>
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<td>Incentives for Innovators: Market-level Rewards</td>
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<td>GUEST LECTURE: The Life Cycle of Inventors</td>
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<td>Class 8</td>
<td>Strategic Interaction in Cumulative Innovation</td>
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<td>The Measurement of Entrepreneurial Ecosystems</td>
<td>December 1</td>
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Note the odd (and exceptional) timing for this session: Monday, 6-9pm instead of Tuesday at the same time.
Class 1  
Ideas, Innovation and Economic Growth  
September 15


Class 2  
The Nature of Ideas and Innovation  
September 22


Class 3 The Supply of Innovators September 39

**Who Is (or Who becomes) an Innovator?**


**Immigration**


Superstars, Concavity and the Concatenation of Talent


Discrimination and Stratification


Manpower Analysis’ Sad Track Record


Class 4  Incentives for Innovators: Contracts and Control Rights  October 6


**PROBLEM SET #1 DUE!**
Class 5  Incentives for Innovators: Intellectual Property, Prizes, and Secrecy  
October 13

Innovation Policy and the Economy 2: 51-77.


Kremer, Michael, and Christopher M. Snyder. 2015. “Preventives Versus Treatment.”  


Prizes and Prize Design


Innovation Policy and the Economy 1: 1-17.


Economics of the Patent System


Patenting and Firm Behavior


**Patenting and Antitrust**


**Secrecy**


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**Class 6**  
**The Life Cycle of Inventors**  
October 20

**Class 7**  
**Open Science as an Economic Institution**  
October 27


Azoulay & Stern, Economics of Ideas, Innovation, and Entrepreneurship,  
Fall 2015, Page 9


Class 8  **Strategic Interaction in Cumulative Innovation Environments**  November 2


Class 9  **Entrepreneurial Strategy**  November 10


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Class 10  Markets for Technology  November 17

**Setting the stage: licensing or integration?**


**Transaction costs (patents, uncertainty) and competition**


**General-Purpose Technologies**


**The division of innovative labor**


**Licensing by large and small firms**


Class 11  The Measurement of Innovation  November 29


Generalities

Connecting Phenomena to Measurement: Innovation Landscapes

The “Furious Fives”: Experiments, Regression/Matching, Diff-inDiff, RDD, IV


**Novel Uses of Citation Data**


**Networks**


Econometric Minutia

PROBLEM SET #2 DUE!

Class 12 The Measurement of Entrepreneurial Ecosystems December 1