窗体顶端

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**Economics of Intellectual Property Rights and Innovation**

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本科生    硕士生    博士生    本科生    硕士生    博士生    本科生    硕士生    博士生

Undergraduate    Master    Doctoral student    Undergraduate    Master    Doctoral student    Undergraduate    Master    Doctoral student

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English

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Basic knowledge of Economics。Undergraduates and postgraduate (especially from economics, law and statistics)

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Lectures and discussions  
AUDIENCE：

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Participation & Discussion 30%；Final Examination 70%

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2 credits

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Zhen LEI  
Associate Professor of Energy and Environmental Economics  
Department of Energy and Mineral Engineering, the Pennsylvania State University  
EDUCATION  
Ph.D., 2009, Agricultural and Resource Economics, University of California, Berkeley  
Ph.D., 2000, Pharmaceutical Sciences, Peking University Health Science Center, China  
M.S., 1997, Chemistry, Shanghai Instititue of Organic Chemisty, Chinese Academy of Sciences, China  
B.S., 1993, Chemistry, Wuhan University, China  
EMPLOYMENT  
2009- , Department of Energy and Mineral Engineering, Penn State University  
2004-2009, Research Assistant, Department of Agricultural and Resource Economics, UC Berkeley  
2000-2003, Postdoctoral Researcher, Department of Nutritional Science and Toxicology, UC Berkeley  
RESEARCH INTERESTS  
Economics of Innovation and Intellectual Property Right, Energy and Environmental Economics, Science and Technology Policy, Industrial Organization, Development Economics, Applied Econometrics

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Information, Research and Innovation are key drivers of growth and prosperity in the modern economy. Policy makers and entrepreneurs need to understand the economics of research and the various means of fostering sustained innovation in a world of proliferating intellectual property rights. This course addresses these issues.   
We start with the history of research and innovation and the institutions that have supported it since ancient times.  We then consider the standard modern economics of invention, introduced by Arrow, Nelson and others; the major types of research management systems; the nature and economic effects of the various modern intellectual property rights; major innovation achievements including examples from agriculture, pharmaceuticals, software, and electronics.  We discuss the determinants of the direction of innovation, the roles of the public and private sectors, open source innovation, the interaction between innovation and market structure, the role of antitrust, the access of the poor to needed technology, and the challenges of ongoing global intellectual property negotiations.  
  
     In this class students will:  
• read and become familiar with some historical examples of the innovation process  
• learn the economics of  innovation processes including research, invention, innovation, development, adoption and diffusion  
• learn to define and distinguish the different forms of intellectual property rights and other means of protecting, encouraging  or contracting for innovation  
• learn a simple static model of the economics of optimal patent life  
• study the effects of patents in a simple dynamic model  
• learn to discuss intelligently issues such as open source innovation, indigenous rights, international intellectual property protection, the problems of neglected diseases, access to pharmaceuticals, and encouragement of clean technology

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1. Introduction  
2. Why Study Innovation? And Why Do We Need an Innovation Policy?  
3. History of the Institutions of Innovation  
4. Investing in Knowledge  
5. Intellectual Property Law I  
6. Intellectual Property Law II  
7. Economics of Process Patents  
8. Discounting and Present Value  
9. How Innovation Incentives Work   
10. Cumulative Innovation  
11. Licensing of Technology  
12. Litigation and Enforcement of IPRs  
13. Licensing Policy and Antitrust (plus quality ladders)   
14. Diffusion and Adoption

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Suzanne Scotchmer, Innovation and Incentives, Cambridge, MA: MIT Press, 2004

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Burke, James. (2007) Connections Simon and Schuster (paperback edition). [A fun book of a TV series.]  
Chapter 6, "Fuel to the Flame," (in Reader).  
Mokyr, Joel. 1990. The Lever of Riches. New York. Oxford University Press, (in Reader).  
Chapter 4 "The Renaissance and Beyond: Technology 1500-1750,"  
Chapter 9 "China and Europe."  
Fagerberg, Jan 2005. "Innovation: A Guide to the Literature." Oxford Handbook of Innovation. Oxford University Press, Oxford, UK.  
The Economist Science and Technology news: http://www.economist.com/science-technology  
National Science Foundation: Science and Engineering Indicators: http://www.nsf.gov/statistics

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