

## Sen Chai

National Bureau of Economic Research (NBER)  
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Citizenship: Canadian

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### Education

9/08 - 5/13	<b>Harvard Business School</b> DBA in Technology and Operations Management	Boston, MA
9/05 - 6/06	<b>Stanford University</b> MS in Management Science and Engineering	Stanford, CA
9/01 - 4/05	<b>McGill University</b> BEng in Electrical Engineering (Magna Cum Laude), Minor in Management	Montreal, Canada

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### Research Experience

6/13 - present	<b>Harvard University &amp; NBER</b> Wertheim Post-Doctoral Fellow Advisor: Richard Freeman	Cambridge, MA
9/08 - 5/13	<b>Harvard Business School</b> Doctoral Student Dissertation: "Essays on the emergence and diffusion of breakthroughs" Committee: Lee Fleming (chair), Gary Pisano, Vicki Sato, Fiona Murray (MIT)	Boston, MA
6/12 - 8/12	<b>University of California – Berkeley</b> Visiting Scholar with Prof. Lee Fleming's group at the Coleman Fung Institute for Engineering Leadership	Berkeley, CA

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### Research Interests

Scientific and technological innovation, commercialization of science, innovation funding and incentives, global innovation strategy, technology strategy.

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### Working Papers

- Chai, Sen. 2013 "Moving Beyond Bibliometrics: Understanding Breakthrough Emergence through Missed Opportunities." Working Paper. (Submitted to Administrative Science Quarterly)
  - Chai, Sen and Willy C. Shih. 2013 "Bridging Science and Technology through Academic-Industry Partnerships." Working Paper.
  - Chai, Sen and Lee Fleming. 2012 "Predicting Breakthroughs with Bibliometrics: A Review and Critical Assessment." Working Paper.
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### Work in Progress

- Chai, Sen, Marissa Suchyta and Richard B. Freeman. 2013 "Academic Conferences as a Collaboration Fostering Vehicle." (Data analysis and writing stage)
- Chai, Sen and Anoop R. Menon "Creative Sources of Commercialization" Working Paper. (Research design planning stage)

- Chai, Sen. "Productivity, Collaboration and Citation Pattern from Virtual Conferences." Working Paper. (Data collecting stage)
- Chai, Sen and Willy C. Shih "What Drives Project Innovative Outcomes? Money or Management" Working Paper. (Research design planning stage)

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### Other Publications

- Valverde-Franco, G., H. Liu, D. Davidson, S. Chai, H. Valderrama-Carvajal, D. Goltzman, D.M. Ornitz, and J.E. Henderson. 2004. "Defective bone mineralization and osteopenia in young adult *FGFR3<sup>-/-</sup>* mice" *Human Molecular Genetics*, 13(3):271-284.
- Amizuka, N., D. Davidson, H. Liu, G. Valverde-Franco, S. Chai, T. Maeda, H. Ozawa, V. Hammond, D. M Ornitz, D. Goltzman, J.E Henderson. 2004. "Signalling by fibroblast growth factor receptor 3 and parathyroid hormone-related peptide coordinate cartilage and bone development" *Bone*, 34(1): 13-25.

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### Case Studies

- Shih, Willy C., and Sen Chai. "Alnylam Pharmaceuticals: Building Value from the IP Estate." *Harvard Business School Case* 611-009.

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### Teaching Experience

MBA course teaching fellow

- *Understanding Technology Businesses* with Prof. Willy Shih (Spring and Fall 2013)
- *Assembling Global Innovation Strategies* with Profs. Willy Shih and Vicki Sato – Second-year field study course in Bangalore and Hyderabad, India and Singapore (Spring 2012) and in Shanghai, China (Spring 2011)

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### Teaching Interests

Managing technology and innovation, commercializing science, global innovation strategy, entrepreneurship.

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### Professional Experience

07/06-09/08 **Deloitte Consulting LLP** – Consultant San Francisco, CA & Seattle, WA  
 Developed business cases for the optimization of business processes in Finance and Supply Chain  
 Projects: electric utilities company, high-tech company and public sector government

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### Professional Certification

2011 Passed all 3 levels of CFA® curriculum

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### Awards and Honors

2013 Sloan Foundation Research Project on the Economics of Knowledge Contribution and Distribution Grant (\$10,000)  
 2008-2013 Harvard Business School Wyss Doctoral Fellowship (full tuition & stipend)  
 2001-2005 McGill University McConnell Undergraduate Scholarship (full tuition)  
 2004 McKinsey & Company Case Competition Award  
 2004 National Science and Engineering Research Council of Canada Student Research Award  
 2003 Canadian Institutes of Health Research Award  
 2001 Federation of Chinese Canadian Professionals Quebec scholarship

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## Conferences

“Moving Beyond Bibliometrics: Understanding Breakthrough Emergence through Missed Opportunities.”

- HBS SBBI Seminar (Science-Based Business Initiative), October 2013, Boston, MA
- Academy of Management Annual Meeting, August 2012, Boston, MA
- UIUC Workshop on Disambiguation, June 2012, Urbana, IL
- HBS-WOM (HBS-Work, Organizations and Markets Seminar), April 2012, Boston, MA

“Predicting Breakthroughs with Bibliometrics: A Review and Critical Assessment.”

- LBS-TADC (LBS Trans-Atlantic Doctoral Conference), May 2011, London, UK
- DEIRC (Darden Entrepreneurship and Innovation Research Conference), May 2011, Charlottesville, VA
- 7<sup>th</sup> EMAEE (European Meeting on Applied Evolutionary Economics), February 2011, Pisa, Italy
- DIME-DRUID Winter 2011 conference, Jan 2011, Aalborg, Denmark

“Fostering Translational Research: Using Academic-Industry Partnerships to Improve Firm Survival, and Innovative Performance.”

- NBER Conference on the Changing Financing Market for Innovation and Entrepreneurship, November 2013, Half Moon Bay, CA
- The Vienna Conference on Strategy, Org Design and Innovation, June 2013, Austria
- 8<sup>th</sup> EMAEE, June 2013, Sophia Anapolis, France
- NBER Pre-Conference on the Changing Financing Market for Innovation and Entrepreneurship, December 2012, Cambridge, MA

“Academic Conferences as a Collaboration Fostering Vehicle.”

- REER (Roundtable for Engineering and Entrepreneurship Research) and Economics of Knowledge Contribution and Distribution Sloan Workshop, November 2013, Atlanta, GA

Other conferences and summer schools attended

- West Coast Research Conference (at USC), September 2012, Los Angeles, CA
- UC Davis Qualitative Methods Workshop, July 2012, Davis, CA
- LBS-TADC, May 2012, London, UK
- SERC (Smith Entrepreneurship Research Conference), April 2012, College Park, MD
- USPTO-NSF Data Workshop, June 2011, Washington, DC
- Trento Summer School on Networks and Innovation, July 2009, Trento, Italy

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**Languages** Native/Trilingual in English, French and Mandarin Chinese

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## References

Lee Fleming – Professor  
Faculty Director of Coleman Fung Institute of Engineering Leadership  
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Berkeley, CA 94720  
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Richard B. Freeman – Herbert Ascherman Professor of Economics  
Harvard University & NBER  
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Willy C. Shih – Professor of Management Practice  
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