Yongheng Deng

OFFICE ADDRESS

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EDUCATION

- 1995 Ph.D., Economics, University of California at Berkeley, Thesis title *The Contingent Claims and Competing Risks for Mortgage Termination by Prepayment and Default* (Winner of the Best Ph.D. Dissertation Award from The American Real Estate and Urban Economics Association), Dissertation Committee: John Quigley (Main Advisor), Daniel McFadden (Oral Committee Chair), and Nancy Wallace.
- 1986 M.S., Transportation Management, Shanghai Maritime University, P. R. China.
- 1983 B.A., Maritime Economics, Shanghai Maritime University, P. R. China.

EMPLOYMENT

- 2009- Professor at National University of Singapore
 - Provost's Chair Professor (since 2011);
 - Professor of Real Estate, School of Design and Environment;
 - Professor of Finance, NUS Business School;
 - Director, Institute of Real Estate Studies (2009-2017);
 - Head, Department of Real Estate (since 2013);
 - Management board, Asia Research Institute (2014-2016);
 - Director, Lifecycle Financing Research Program, Global Asia Institute (since 2012);
 - Research Associate, NUS Risk Management Institute, and NUS Center for Quantitative Finance.
- 1999-2008 Professor (2008), Associate Professor (2003-2008), Assistant Professor (1999-2003), School of Policy, Planning, and Development, and Department of Finance and Business Economics, Marshall School of Business (by courtesy), University of Southern California (USC).
- 2006-2008 Director of Doctoral Program, School of Policy, Planning, and Development, USC.
- 1998-1999 Post-Doctoral Research Fellow, Zell/Lurie Real Estate Center, Wharton School of University of Pennsylvania.
- 1995-1998 Expert Economist (1996-1998), Economist (1995-1998) Office of Federal Housing Enterprise Oversight, Washington D.C.
- 1993&1994 Summer Intern, Federal Home Loan Mortgage Company (Freddie Mac).
- 1986-1988 Assistant Chair, Department of Transportation Management; and Director, Faculty of Economics, Shanghai Maritime University, China.
- 1983-1988 Assistant Professor, Department of Transportation Management, Shanghai Maritime University, China.

VISITING POSITIONS

- 2017- Special Term Professor of Finance, Fanhai International School of Finance, Fudan University, China.
- 2016- Visiting Chair Professor, School of Finance, Nankai University, China.
- 2012- Visiting ExEd Academic Program Director, School of Business, Renmin University of China.
- 2011- Visiting Scholar, UCLA Ziman Center for Real Estate, Anderson School of Management,

University of California, Los Angeles.	
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- 2009- Visiting Professor, School of Public Economics and Management, Shanghai University of Finance and Economics, China.
- 2005-2007 Visiting Professor of School of Business, Renmin University of China.
- 2005-2006 Visiting Scholar, Haas School of Business, and Goldman School of Public Policy, University of California at Berkeley.
- 2005 Visiting Scholar, Department of Finance, Stockholm School of Economics, Sweden.
- 2004 Summer Visiting Scholar, Haas School of Business, University of California at Berkeley.
- 2004- Visiting Professor, Shanghai Maritime University, China

FELLOWSHIPS AND HONORS

Senior Fellow, Asian Bureau of Finance and Economic Research (ABFER).
Penn IUR Scholar, Penn Institute of Urban Research, University of Pennsylvania.
Fellow of the Royal Institution of Chartered Surveyors.
Fellow of the Homer Hoyt Institute for Advanced Real Estate Studies.
Exceptional Mellon Mentor Recognition, University of Southern California.
Post-Doctoral Fellowship, Weimer School of Advanced Studies in Real Estate and Land
Economics.
Post-Doctoral Fellowship, Zell/Lurie Real Estate Center, Wharton School of University of
Pennsylvania.
Director's Award, Office of Federal Housing Enterprise Oversight, Washington DC.
Department of Economics Graduate Student Award for Public Policy Research, University

of California at Berkeley. 1993-1994 Center for Real Estate and Urban Economics Dissertation Fellowship, University of California at Berkeley.

BEST PAPER AWARDS

- 2015 Aareal Award of Excellence in Real Estate Research (with Erik Devos, Shofiqur Rahman and Desmond Tsang), 16th EBS Real Estate Conference, Germany.
- 2014 CICF Best Paper Award (with Xin Liu and Shang-jin Wei), China International Conference in Finance, Chengdu, China.
- 2013 Best Paper Award (with Wu Jing and Joseph Gyourko), Global Chinese Real Estate Congress (GCREC), Beijing, China.
- 2012 Second Prize Best Paper Award (with Ren Chaoqun and Wu Jing), Global Chinese Real Estate Congress (GCREC), Macau, China.
- 2011 First Prize Best Paper Award (with Liu Xue Liang and Wu Jing), Global Chinese Real Estate Congress (GCREC), Hangzhou, China.
- 2011 Homer Hoyt Best Paper Award (with Ming Pu and Gang-Zhi Fan), AsRES-AREUEA Joint International Conference, Jeju, South Korea.
- 2007 Best Paper Award (with John M. Quigley), Cambridge-UNCC Symposium on Risk Management Cascais, Portugal.
- 2002 Homer Hoyt Best Paper Award (with Stuart Gabriel), AsRES-AREUEA Joint International Conference, Seoul, South Korea.
- 1996 Homer Hoyt Best Ph.D. Dissertation Award, American Real Estate and Urban Economics Association.

PROFESSIONAL SERVICES AND IMPACTS

Selected Research Impact

Ranked by IDEAS database, RePEc, in top 3% leading economists (among 4,236) around the world in the field of Urban & Real Estate Economics, top 22 among 531 leading economists around the world in the field of China, and top 14 out of 184 leading economists in Singapore, as of April 2017, (http://ideas.repec.org/top/top.ure.html#authors).

Ranked by SciVal No. 2 among top 500 authors by number of publications, and in top 3 by number of citations, in the National University of Singapore (Economics, Econometrics and Finance) (

Curriculum Vitae Yongheng Deng

- 2. Yongheng Deng, Eric Girardin and Roselyne Joyeux, (2016) "Fundamentals and the Volatility of Real Estate Prices in China: A Sequential Modelling Strategy" *China Economic Review* (forthcoming).
- 3. Yongheng Deng, Eric Girardin, Roselyne Joyeux and Shuping Shi, (2017) "Did Bubbles Migrate from the Stock to the Housing Market in China between 2005 and 2010?" *Pacific Economic Review*, 22, 276-292.
- 4. Yongheng Deng, Maggie (Rong) Hu, and Anand Srinivasan, (2017) "Information Asymmetry and Organizational Structure: Evidence from Real Estate Investment Trusts," *Journal of Real Estate Finance and Economics*, 55(1), 32-64.
- 5. Hongjia Zhu, Yongheng Deng, Rong Zhu and Xiaobo He, (2016) "Fear of Nuclear Power? Evidence from Fukushima Nuclear Accident and Land Market in China," *Regional Science and Urban Economics*, 60, 139-154.
- 6. Jing Wu, Joe Gyourko and Yongheng Deng, (2016) "Evaluating the Risk of Chinese Housing Markets: What We Know and What We Need to Know," *China Economic Review*, 39, 91-114.

An earlier version was published in *NBER working paper w21346* <u>http://www.nber.org/papers/w21346</u>.

- Sumit Agarwal, Yongheng Deng, Chenxi Luo and Wenlan Qian, (2016) "The Hidden Peril: The Role of the Condo Loan Market in the Recent Financial Crisis," *Review of Finance*, 20(2), 467-500.
- 8. Xudong An, Yongheng Deng, Jeffrey Fisher, and Maggie (Rong) Hu, (2016) "Commercial Real Estate Rental Index: A Dynamic Panel Data Model Estimation," *Real Estate Economics*, 44 (2), 378-410.
- 9. Yongheng Deng, Erik Devos, Shofiqur Rahman and Desmond Tsang, (2016) "The Role of Debt Covenants in the Investment Grade Bond Market The REIT Experiment," *Journal of Real Estate Finance and Economics*, 52 (4), 428-448.
- 10. Yongheng Deng, Randall Morck, Jing Wu and Bernard Yeung, (2015) "China's Pseudo-monetary Policy," *Review of Finance*, 19(1), 55-93.

An earlier version was titled, "Monetary and Fiscal Stimuli, Okine(sh)p(Struct))rel2 .7 (r)9.2 (s)-3.9 (Hour)-4 (

Curriculum Vitae Yongheng Deng

- 32. Peng Fei, Letian Ding and Yongheng Deng (2010) "Correlation and Volatility Dynamics in REIT Returns: Performance and Portfolio Considerations," *Journal of Portfolio Management*, 36 (2), 113-125.
- 33. Yongheng Deng and Peng Liu, (2009) "Mortgage Prepayment and Default Behavior with Embedded Forward Contract Risks in China's Housing Market," *Journal of Real Estate Finance and Economics*, 38 (3), 214-240.
- 34. Xudong An, Yongheng Deng and Stuart Gabriel, (2009) "Value Creation through Securitization: Evidence from the CMBS Market," *Journal of Real Estate Finance and Economics*, 38 (3), 302-326.
- 35. Danny Ben-Shahar, Yongheng Deng and Eyal Sulganik, (2009) "Property Appraisal in High-Rises: A Cooperative Game Theory Approach," *Journal of Housing Economics*, 18 (1), 25-33.
- 36. Yongheng Deng and John M. Quigley, (2008) "Index Revision, House Price Risk, and the Market for House Price Derivatives," *Journal of Real Estate Finance and Economics*, 37 (3), 191-209 (lead article).

Reprinted in *Housing Economics*, Vol 2. Housing Finance, Alex Marsh and Kenneth Gibb (Ed.), Sage Publications (2011), ISBN: 978-1849200189.

- 37. Diehang Zheng, Yongheng Deng, Peter Gordon and, David Dale-Johnson, (2007) "An Examination of the Impact of Rent Control on Mobile Home Prices in California," *Journal of Housing Economics*, 16 (2), 209-242.
- Yongheng Deng and Stuart A. Gabriel, (2006) "Risk-Based Pricing and the Enhancement of Mortgage Credit Availability among Underserved and Higher Credit-Risk Populations," *Journal of Money, Credit and Banking*, 38 (6), 1431-1460.
- 39. John Clapp, Yongheng Deng and Xudong An, (2006) "Unobserved Heterogeneity in Models of Competing Mortgage Termination Risks," *Real Estate Economics*, 34 (2), 243-273.
- 40. Yongheng Deng, Andrey Pavlov and Lihong Yang, (2005) "Spatial Heterogeneity in Mortgage Terminations by Refinance, Sale and Default," *Real Estate Economics*, 33 (4), 739-764.
- 41. Yongheng Deng, Della Zheng and Changfeng Ling, (2005) "An Early Assessment of Residential Mortgage Performance in China," *Journal of Real Estate Finance and Economics*, 31 (2), 117-136 (lead article).
- 42. Yongheng Deng, Stephen L. Ross and Susan M. Wachter, (2003) "Racial Differences in Homeownership: The Effect of Residential Location," *Regional Science and Urban Economics*, 33 (5), 517-556 (lead article).
- 43. Brian A. Ciochetti, Yongheng Deng, Gail Lee, James Shilling and Rui Yao, (2003) "A Proportional Hazards Model of Commercial Mortgage Default with Originator Bias," *Journal of Real Estate Finance and Economics*, 27 (1), 5-23 (lead article).
- 44. Yongheng Deng, Stuart A. Gabriel and Frank E. Nothaft, (2003) "Dura

Heterogeneity and the Exercise of Mortgage Options," Econometrica, 68 (2), 275-307.

Reprinted in *Housing Economics*, Vol 2. Housing Finance, Alex Marsh and Kenneth Gibb (Ed.), Sage Publications (2011), ISBN: 978-1849200189.

- 49. Yongheng Deng, (1997) "Mortgage Termination: An Empirical Hazard Model with Stochastic Term Structure," *Journal of Real Estate Finance and Economics*, 14 (3), 309-331.
- 50. Yongheng Deng, John M. Quigley and Robert Van Order, (1996) "Mortgage Default and Low Downpayment Loans: The Costs of Public Subsidy," *Regional Science and Urban Economics*, 26 (3-4), 263-285.

Reprinted in *The International Library of Critical Writings in Economics: Economics of Housing*, John M. Quigley (ed.), Edward Elgar Pub. (1997), ISBN: 1-85278-754-6.

Also in The NBER Digest, December 1995.

An earlier version was published in *NBER working paper w5184*, <u>http://www.nber.org/papers/w5184</u>.

Publications in Refereed Academic Journals in Chinese

- 1. Xueliang Liu, Jing Wu and Yonghegn Deng, (2016) "Demographic Shock, Marriage and the Housing Market," *Nankai Economic Studies (A Chinese National Social Science Foundation Sponsored Journal)*, 187(1), 58-76.
- 2. Chaoqun Ren, Jing Wu and Yongheng Deng, (2013) "The Effect of Market Expectation on the Change of Housing Rent to Price Ratio: an Analysis Based on User Cost Model," *Journal of Zhejiang University (Humanities and Social Sciences)*, 43(1), 58-72.

Book Chapters

- 1. Yongheng Deng, "The Value of Land and Housing in China's Residential Market," in *The Oxford Companion to the Economics of China*, S. Fan, R. Kanbur, S. Wei and X. Zhang (ed.), Oxford University Press, (2014), ISBN: 978-0-19-967820-4.
- Yongheng Deng, Tien Foo Sing and Chaoqun Ren, "The Story of Singapore's Public Housing: From a Nation of Home-Seekers to a Nation of Homeowners," in *The Future of Public Housing:* Ongoing Trends in the East and the West, J. Chen, M. Stephens, Y. Man (ed.), Springer, (2013), ISBN: 978-3-642-41621-7.
- 3. Yongheng Deng, Joseph Gyourko and Jing Wu, "Land and House Price Measurement in China," in *Property Markets and Financial Stability*, A. Heath, F. Packer and C. Windsor (ed.), Reserve Bank of Australia, (2012), ISBN: 978-0-9873620-3-2.

Also in *The NBER Digest*, February 2013.

An earlier version was published in *NBER working paper w18403*, <u>http://www.nber.org/papers/w18403</u>.

Yongheng Deng and Peng Fei, "Housing Finance in China," in *China's Housing Reform and Outcomes*, Joyce Y. Man (ed.), Lincoln Institute of Land Policy, (2011), ISBN: 978-1-55844-211-5.

Reprinted in "Mortgage Market, Character and Trends: China," in *The International Encyclopedia of Housing and Home*, Susan J. Smith (ed.), Elsevier Pub. (2012), ISBN: 9780080471631.

5. Xudong An, Yongheng Deng and Anthony Sanders, "Subordinations Levels in Structured Financing," in *Handbooks in Finance: Handbook of Financial Intermediation and Banking*, Anjan V. Thakor and Arnoud Boot (ed.), Elsevier Pub. (2008), ISBN: 978-0-444-51558-2.

- Yongheng Deng and Peng Fei, "Emerging Mortgage Markets in China," in *Mortgage Markets Worldwide*, D. Ben-Shahar, C. Leung and S. E. Ong (ed.), Blackwell Publisher, (2008), ISBN: 978-1-4051-3210-7.
- 7. Xudong An, Raphael Bostic, Yongheng Deng and Stuart Gabriel, "GSE Loan Purchases, The FHA, And Housing Outcomes In Targeted, Low-Income Neighborhoods," in *Brookings-Wharton Papers on Urban Affairs: 2007*, Gary Burtless and Janet Rothenberg Pack (ed.), Brookings Institution Press, (2007), ISBN: 978-0-8157-1372-2.

Other Publications

- 1. Yongheng Deng, Joseph Gyourko and Jing Wu, (2017) "Evaluating Risk across Chinese Housing Markets" *VoxChina*, Aug 2, 2017. (<u>http://voxchina.org./show-3-29.html</u>)
- 2. Yongheng Deng, Joe Gyourko, and Jing Wu, (2014). "The Wharton/NUS/Tsinghua Chinese Residential Land Price Indexes (CRLPI) White Paper", *NUS IRES working paper*, (http://www.ires.nus.edu.sg/CRLPI/CRLPI/data/whitepaper-english.pdf)
- Sumit Agarwal, Yongheng Deng and Tien Foo Sing, (2012) "The Rise and Rise of Shoebox Units," *The Straits Times*, Opinion, 12 September, 2012. (http://newshub.nus.edu.sg/news/1209/PDF/RISE-st-12sep-pA25.pdf)
- Yongheng Deng, (2011) "A Blow to Household Wealth," *The New York Times*, Opinion, 15 April, 2011. (<u>http://www.nytimes.com/roomfordebate/2011/04/14/chinas-scary-housing-bubble/a-blow-to-household-wealth</u>)
- 5. Yongheng Deng and Bernard Yeung, (2010) "Hidden Perils of China's Stimulus Boost," *The Straits Times*, 16 October 2010.
- 6. Yongheng Deng and Bernard Yeung, (2010) "China's Stimulus May Be a Curse In Disguise," *Forbes*, 25 August 2010. (http://www.forbes.com/2010 (6.)Tj 011.0.(-

- 2. Xudong An, Yongheng Deng and Stuart Gabriel, "Default Option Exercise over the Financial Crisis and Beyond," (<u>http://ssrn.com/abstract=2498179</u>).
- 3. Brent Ambrose, Yongheng Deng and Jing Wu, "Understanding the Risk of China's Local Government Debts and Its Linkage with Property Markets," (<u>http://ssrn.com/abstract=2557031</u>).
- 4. Yongheng Deng and John M. Quigley, "Woodhead Behavior and the Pricing of Residential Mortgages," (http://ssrn.com/abstract=288694).
- 5. Sumit Agarwal, Yongheng Deng and Jia He, "Time Preferences, Mortgage Choice and Mortgage Default," (<u>http://ssrn.com/abstract=2447684</u>).
- Yongheng Deng, Maggie (Rong) Hu, and Anand Srinivasan, "Hold-Up Versus Benefits in Relationship Banking: A Natural Experiment Using REIT Organizational Form," (<u>http://ssrn.com/abstract=1959721</u>).
- 7. Yongheng Deng and Joseph Gyourko, "Singapore's Cooling Measures and Its Housing Market: Overview and Analysis," *NUS IRES working paper*.
- 8. Sumit Agarwal, Yongheng Deng and Hongjia Zhu, "Reaction of Retirement Savings to Higher Interest Rate: Evidence from Singapore," *NUS IRES working paper*.
- Yongheng Deng, Yu Qin and Hongjia Zhu "Housing Prices and Mating Preferences: Evidence from Online Daters," *NUS IRES working paper*, (http://www.ires.nus.edu.sg/workingpapers/IRES2016-009.pdf).
- 10. Yongheng Deng, Yang Tang, Ping Wang and Jing Wu, "Spatial Misallocation in Chinese Housing and Land Markets," *NUS IRES working paper*.
- 11. Jian Yang, Ziliang Yu and Yongheng Deng, "Housing Price Spillovers in China," NUS IRES working paper.
- 12. Yongheng Deng, Yong Tu and Yanjiang Zhang, "The Limits of Arbitrage and Seller's Stamp Duty," *NUS IRES working paper*.
- Yongheng Deng and Hongjia Zhu "Can Air Pollution Be Capitalized into Land Prices in the Short Run? Evidence from Beijing," *NUS IRES working paper*, (http://www.ires.nus.edu.sg/workingpapers/IRES2015-013.pdf).
- 14. Yong Tu, Yanjiang Zhang and Yongheng Deng, "The Behaviors of Flippers, Rental Investors and Owner-Occupiers in Singapore Private Housing Market," *NUS IRES working paper*.
- Yongheng Deng and Hongjia Zhu, "Disparities in the Geographic Focus of Real Estate and Urban Economics Publication," *AREUEA 2015 Presidential Speech*. (<u>http://www.ires.nus.edu.sg/workingpapers/IRES2015-002.pdf</u>).
- 16. Yongheng Deng, Quanlin Gu and Jia He, "Reinforcement Learning and Mortgage Partial Prepayment Behavior," *NUS IRES working paper*.
- 17. Yongheng Deng, Susan Wachter and Hongjia Zhu, "Effectiveness of Cooling Measures in the Housing Markets: Evidence from China and Singapore," *NUS IRES working paper*.
- 18. Yongheng Deng, Junichiro Onishi, Chihiro Shimizu and Siqi Zheng, "The Economic Value of Green Office Buildings in Tokyo," *NUS IRES working paper*.
- 19. Chihiro Shimizu, Yongheng Deng, Yasuhito Kawamura and Kiohiko Nishimura, "Analysis of policy options to address Japan's declining population, shrinking birthrate, and aging society," *NUS IRES working paper*, (http://www.ires.nus.edu.sg/workingpapers/IRES2015-015.pdf.)
- 20. Yongheng Deng and Joseph Gyourko, "Real Estate Ownership by Non-Real Estate Firms: An Estimate of the Impact on Companies' Returns," *Wharton Real Estate Working Paper Series*, No. 321, Zell/Lurie Real Estate Center at Wharton, University of Pennsylvania.

External Research Grants Awarded

- 2015-2017 Grant from Natural Science Foundation of China (No. 71403290), "China's housing demand and housing price dynamics from the perspective of demographic structure transition," (with Liu Xueliang, Chinese Academy of Social Science)
- 2014-2017 Grant from Natural Science Foundation of China (No. 71373006), "Measurement and Research on Residential Land Price Dynamics in Major Chinese Cities," (with Jing Wu, Tsinghua University)
- 2012-2015 Grant from Natural Science Foundation of China (No. 71173120), "Studies on China Housing Prices from Macro Economic Perspectives," (with Gong Gang, Nankai University)
- 2012-2015 NUS Global Asian Institute Signature Research Program Grant, "Lifecycle Financing, Housing Wealth and Household Consumption Behavior," (Co-Principal Investigator with Teck Hua Ho and Tien Foo Sing).
- 2011-2013 Grant from Natural Science Foundation of China (No. 71003060), "Measurement and Research on Municipal Authorities' Behaviors in Housing Market Intervention in China," (with Jing Wu, Tsinghua University).
- 2010-2011 Real Estate Research Institute Research Grant, "Commercial Real Estate Rental Index: A Dynamic Panel Data Model Estimation," (Co-Principal Investigator with Xudong An and Jeff Fisher).
- 2010-2011 NUS Risk Management Institute Credit Rating Research Initiative, "Predicting Bankruptcy of Asian Firms: Institution, State of the Economy and Unobserved Heterogeneity," (Co-Principal Investigator with Xudong An).
- 2008-2009 Real Estate Research Institute Research Grant, "A Structural Model for Capitalization Rate," (Co-Principal Investigator with Xudong An).
- 2007-2008 Real Estate Research Institute Research Grant, "CDO Issuance and the Pricing of Mortgage Debt," (Co-Principal Investigator with Stuart Gabriel and Anthony Sanders).
- 2006-2007 USC China Institute, "The Role of Civic Engagement in Securing Property Rights: A Comparison of the US and China," (Co-Principal Investigator with Terry Cooper and Ann Crigler).
- 2006-2007 U.S. Department of Education Grant, "International Real Estate Development Workshop Planning Project: Real Estate Development Opportunities in Asia," (Subcontract with USC CIBEAR).
- 2006-2007 Real Estate Research Institute Research Grant, "Subordination Level as a Predictor of Credit Risk," (Co-Principal Investigator with Xudong An).
- 2003-2007 Department of Housing and Urban Development (HUD) Research Grant, "The Impacts of Termination Risks and Borrower Heterogeneity on Pricing of FHA-Insured Mortgages and Mortgage-Backed Securities," (Co-Principal Investigator with Stuart Gabriel).
- 2004-2006 HUD Doctoral Dissertation Research Grant, "Redlining Revisited: Spatial U.S. Dependence and Neighborhood Effects of Mortgage Lending Discrimination," (Principal Investigator, supervising Duan Zhuang).
- 2003-2004 Real Estate Research Institute Research Grant, "A Structural Model of Real Options in Real Estate Development," (Co-Principal Investigator with Christopher Mayer and Tsur Somerville).
- 2003-2004 Real Estate Research Institute Research Grant, "Commercial Mortgage Workout Strategy and Conditional Default Probability: Evidence from Special Serviced CMBS Loans," (Co-Principal Investigator with Jun Chen).
- 2002-2006 U.S. Department of Education Grant, "International Real Estate Development Workshop

Planning Project: Real Estate Development Opportunities in Asia," (Co-Principal Investigator with David Dale-Johnson, subcontract with USC CIBEAR).

- 2002-2003 Real Estate Research Institute Research Grant, "Clustering of NOI Growth by MSA and Economic Areas," (Co-Principal Investigator with Jeffrey Fisher, Anthony Sanders, and Brent Smith).
- 2002-2003 HUD Early Doctoral Student Research Grant, "Impacts of Competing Risks of Mortgage Terminations in Underserved Areas," (Principal Investigator, supervising Duan Zhuang).
- 2001-2003 Pacific Legal Foundation Program for Judicial Awareness Grant, (Co-Principal Investigator with Peter Gordon and David Dale-Johnson).
- 2001-2002 Real Estate Research Institute Research Grant, "Duration of Residence in the Rental Housing Markets," (Co-Principal Investigator with Stuart Gabriel).
- 2001-2002 U.S. Department of Housing and Urban Development (HUD) Research Grant, "Modeling the Performance of FHA-Insured Loans: Borrower Heterogeneity and the Exercise of Mortgage Default and Prepayment Options," (Co-Principal Investigator with Stuart Gabriel).
- 2001-2002 HUD Early Doctoral Student Research Grant, "Housing Tenure Choice among Asian Americans," (Principal Investigator, supervising Zhou Yu).
- 2001 Ford Foundation Grant, "Estimating the Impact of Tax Credit on Mortgage Demand," (Principal Investigator, subcontract with University of Wisconsin, Madison).
- 2001 U.S. Department of Education Grant, "International Real Estate Development Workshop Planning Project: Real Estate Development Opportunities in Asia," (Principal Investigator, subcontract with USC CIBEAR).
- 1999-2001 Ford Foundation Grant, "Estimating the Portfolio Effect of the Elimination of the Mortgage Interest Deduction," (Principal Investigator, subcontract with University of Wisconsin, Madison).

Invited Seminar Presentations

- 2017: Australian National University (Canberra); Reserve Bank of Australia (Sydney); University of British Columbia (Vancouver); Fudan University (Shanghai); Southwestern University of Finance and Economics (Chengdu); Survey and Research Center for China Household Finance (Chengdu).
- 2016: MIT; Cornell University; Axi-Marseille School of Economics (Marseille); Graduate Institute, Geneva (Geneva); University of Geneva (Geneva); Kyoto University (Kyoto); San Francisco Fed (San Francisco).
- 2015: MIT; OECD (Paris); Maastricht University (Netherland); Canon Institute for Global Studies (Tokyo).
- 2014: Asian Development Bank (Manila); Shanghai Maritime University (Shanghai); Kadir Has University (Istanbul, Turkey); Ozyegin University (19 (1990); (19 (1990); (1

School of Economics (France).

- 2011: Dongbei University of Finance and Economics (China); University of Amsterdam, Finance Seminar (Netherlands); Shanghai University of Finance and Economics, School of Public Economics and Administration (Shanghai).
- 2010: NBER East Asia Seminar on Economics (Australia); Maastricht University, Department of Finance (Netherlands); University of Melbourne, Department of Finance (Australia); Shanghai University of Finance and Economics, School of Finance (China); Fudan University (China); National University of Singapore, IRES Symposium on Urbanization and Housing in Asia (Singapore); National University of Singapore, Asia Research Institute (Singapore); National University of Singapore, NUS business School (Singapore).
- 2009: San Diego State University, Department of Finance; Shanghai University of Finance and Economics, School of Finance, School of Public Economics and Management (China); South Western University of Finance, School of Economics and Institute of Economic Research (China); Singapore Management University, School of Economics (Singapore); Peking University, School of Urban and Environmental Sciences (China); National University of Singapore, Institute for Mathematical Sciences (Singapore).
- 2008: Board of Governors of the Federal Reserve System, Washington D.C.; George Washington University; University of California, Irvine, Finance Colloquium; Japanese Association of Real Estate Financial Engineering (Japan); National University of Singapore (Singapore).
- 2007: University of California, Los Angeles, Anderson School of Management; New York University, Stern School of Business; Fudan University, School of Management (China); Shanghai University of Finance and Economics, School of International Business and Management (China); Renmin University, School of Business (China).
- 2006: University of Florida, Department of Finance; Renmin University, School of Business (China); Chinese Academy of Social Science (China).
- 2005: University of California, Berkeley, Haas School of Business; University of Wisconsin, Madison, School of Business; Stockholm School of Economics, Department of Finance (Sweden); City University of New York, Baruch, Department of Finance; Renmin University, School of Business (China); Weimer School of Advanced Studies in Real Estate and Land Economics, Hoyt Fellows Research Seminar.
- 2004: Tsinghua University, The Graduate School (China); Weimer School of Advanced Studies in Real Estate and Land Economics, Hoyt Fellows Research Seminar.
- 2003: NBER Summer Institute; Ohio State University, Fisher College of Business; University of Southern California, Lusk Symposium; China Bond Market Forum (China).
- 2002: University of Wisconsin, Madison, School of Business; University of Connecticut, School of Business Administration and Department of Statistics; University of Southern California, Marshall School of Business; University of Southern California, Department of Economics; Tsinghua University, The Graduate School (China); Board of Governors of the Federal Reserve System; Office of Comptroller of the Currency; Weimer School of Advanced Studies in Real Estate and Land Economics, Hoyt Fellows Research Seminar.
- 2001: University of British Columbia, Department of Finance; University of British Columbia, Real Estate Summer Symposium; University of Southern California, Lusk Symposium; Fannie Mae Foundation.
- 2000: University of California at Riverside, Department of Economics.
- 1999: Stockholm School of Economics, Department of Finance, Sweden; University of Southern California, Department of Economics; University of Southern California, School of Policy, Planning and Development.
- 1997: Renmin University (China); Wu Han University (China); South China University of Technology (China).
- 1995: University of California at Berkeley, NSF Symposium.

Conference Presentations

2017: ASSA/AEA Annual Conference, ASSA/AREUEA Annual conference (Chicago); Asian Meeting

of the Econometric Society (Hong Kong); ABFER Annual Conference 2017 (Singapore).

- 2016: ASSA/AEA Annual Conference, ASSA/AFA Annual Conference, ASSA/AREUEA Annual conference (San Francisco); First PKU-NUS Annual International Conference on Quantitative Finance and Economics Keynote Address (Shenzhen); ABFER Annual Conference 2016 (Singapore); Latin America Real Estate Society Annual Conference 2016 Keynote Address (Sao Paulo); Hitotsubashi-RIETI International Workshop (Tokyo); The Wharton China Center Conference on the Rise of City in China (Beijing).
- 2015: ASSA/AREUEA Annual Conference (Boston); USC 2015 Rena Sivitanidou Annual Research Symposium (Los Angeles); UCONN Center for Real Estate 50th Anniversary Symposium (Hartford); NBER Chinese Economy Meeting (Cambridge); NYU CGEB CREFR Conference on China's Real Estate Markets (New York City); Renmin University 30th Anniversary of Department of Land Management (Beijing); ABFER Annual Conference 2015 (Singapore); Nankai University Grand Opening of School of Finance International conference (Tianjin); AsRES-AREUEA-GCREC International Conference (Washington DC); NBER-CCER Conference on China and World Economy (Beijing); IMF-Princeton-CUHK Conference on Housing and Financial Stability in China (Shenzhen).
- 2014: ASSA/AREUEA & ASSA/AFA Annual Conference (Philadelphia); NBER conference on the Economics of Environmental Protection in China (Cambridge); FSU-UF Symposium on Critical Issues in Real Estate (Gainesville); Asian Bureau of Finance and Economics Research (ABFER) Conference (Singapore); Princeton University-Peking University and Review of Financial Studies Third Symposium on Emerging Financial Markets: China and Beyond (Beijing); China International Conference in Finance (Chengdu, China); International Forum on Housing Finance in the Asia-Pacific Ministerial Conference of on Housing and Urban Development (Seoul); Korea Research Institute for Human Settlements (KRIHS) Forum on Aging Era and Reverse Mortgage (Seoul); Hitotsubashi-RIETI International Workshop on Real Estate Market and the Macro Economy (Tokyo); Workshop on Real Estate Market and the Macro Economy (Tokyo).
- 2013: ASSA/AREUEA Annual Conference (San Diego); Asian Bureau of Finance and Economics Research (ABFER) Inaugural Conference (Singapore); 2013 International Symposium on Analysis of Panel Data in Honor of Professor Cheng Hsiao (Xiamen); AREUEA International Conference (Jerusalem); AsRES Annual Conference (Kyoto); Asian Meeting of the Econometric Society (Singapore); IUSSP International Population Conference (Busan); EMG Conference, University of Tokyo (Tokyo); CAU International Conference (Seoul).
- 2012: ASSA/AREUEA Annual Conference (Chicago); AsRES-AREUEA International Real Estate Conference (Singapore); RBA-BIS Research Conference on Property Markets and Financial Stability (Sydney); Fudan University 2nd International Symposium on "Public Housing Futures" (Shanghai); Harvard University, Kennedy School Conference on the Societal Function of Investment Asset Classes: Implications for Responsible Investment (Cambridge); NBER Chinese Economy Working Group Meeting (Cambridge); Lincoln Institute of Land Policy and UC Berkeley Program on Housing and Urban Policy Conference on Present & Retrospect: The Work of John M. Quigley (Cambridge); Korea Development Institute-World Bank-Chinese Academy of Governance Forum on Socio-Economic Development: Strategy, Development and Capacity (Beijing); Korea Development Institute Conference on Real Estate Driven Systemic Risk: Country Cases & Their Policy Implications (Seoul).
- 2011: ASSA/AREUEA Annual Conference (Denver); Hong Kong Institute for Monetary Research (HKIMR) Second Annual International Conference on the Chinese Economy; USC US-China Institute Conference on the State of the Chinese Economy; UC Berkeley-Maastricht University-European Economic Review conference on Green Building, The Economy, and Public Policy (Netherlands); GCREC Annual conference (Hang Zhou, China); Shanghai Forum (Shanghai); Asian Finance Association (Macau); AsRES-AREUEA International Real Estate Conference (Jeju).
- 2010: ASSA/AREUEA Annual Conference (Atlanta); University of California, Irvine, Third Annual Real Estate Research Symposium; Second Singapore Quantitative Finance Conference (Singapore); AREUEA-ERES International Conference (Rotterdam); GCREC Annual

Conference (Taipei); AsRES Annual Conference (Kaotsiung); Asia Pacific Real Estate Research Symposium (Hong Kong).

- 2009: ASSA/AEA Annual Conference (San Francisco); ARES Annual Conference (Monterey); Shanghai Forum (Shanghai); Lincoln Institute of Land Policy Conference on Housing Policy and Housing Market in China (Boston); Asia Pacific Real Estate Research Symposium (Los Angeles); AsRES-AREUEA International Real Estate Conference (Los Angeles); Third Annual Risk Management Conference (Singapore); Global Chinese Real Estate Congress (GCREC) Inauguration Conference (Beijing); NUS-MIT-Maastricht Symposium on Real Estate Investment (Singapore).
- 2008: ASSA/AREUEA Annual Conference (New Orleans); University of California, Irvine, Merage School Symposium; Tsinghua-USC-NUS-HKU Real Estate Research Symposium (Beijing); AsRES International Conference (Shanghai); Global Chinese Real Estate Congress Inauguration Conference (Shanghai).
- 2007: ASSA/AEA Annual Conference (Chicago); ASSA/AFA Annual Conference (Chicago); ASSA/AREUEA Annual Conference (Chicago); ASSA/NAEFA Annual Conference (Chicago); ARES Annual Conference (San Francisco); Shanghai Forum (Shanghai); Cambridge-UNCC Symposium on Risk Management (Cascais); International Conference on Neighborhood Governance: a Multicultural Perspective (Beijing); AsRES and AREUEA International Conference (Macau); Association of Pacific Rim Universities (APRU) Symposium on Real Estate and Housing (Singapore).
- 2006: ASSA/AREUEA Annual Conference (Boston); Frontier of Finance Conference (Bonaire); Tsinghua-USC-NUS Real Estate Research Symposium (Beijing); Symposium on Property Derivatives & Risk Management (Cambridge); AREUEA/AsRES Joint International Conference (Vancouver); International Conference on the Real Estate and GIS (Jeju, Korea); International Conference for Real Estates and the Macroeconomy (Beijing); HKU-NSU International Real Estate Research Symposium (Hong Kong); Maastricht-MIT-Cambridge Real Estate Finance and Investment Symposium (Maastricht); Brookings-Wharton Conference on Urban Affairs (Washington DC).
- 2005: ASSA/AREUEA Annual Conference (Philadelphia); Federal Reserve Bank of Chicago Conference (Chicago); Society of Advanced Economic Theory Conference (Vigo); Cambridge-Maastricht Real Estate Finance and Investment Symposium (Cambridge); Japanese Association of Real Estate Financial Engineering Conference (Tokyo).
- 2004: ASSA/AREUEA Annual Conference (San Diego); European Real Estate Society Conference (Milan).
- 2003: ASSA/AREUEA Annual Conference (Washington DC); American Finance Association (AFA)/AREUEA Joint Session (Washington DC); AREUEA Summer International Conference (Krakow); Skye Conference on Commercial Real Estate Investment (Isle of Skye, Scotland); Singapore-Hong Kong International Real Estate Research Symposium (Singapore); AsRES Annual Conference (Singapore).
- 2002: ASSA/AREUEA Annual Conference (Atlanta); Cambridge-Maastricht Real Estate Finance and Investment Symposium (Maastricht); Northern America Econometric Society Summer Conference (Los Angeles); AREUEA/AsRES Joint International Conference (Seoul).
- 2001: ASSA/AREUEA Annual Conference (New Orleans); AFA/AREUEA Joint Session (New Orleans); Cambridge-Maastricht Real Estate Finance and Investment Symposium (Cambridge); AREUEA/AsRES Joint International Conference (Tokyo); AsianFA Annual Conference (Bangkok).
- 2000: ASSA/AREUEA Annual Conference (Chicago); American Economic Association (AEA) Session (Chicago); Cambridge-Maastricht Real Estate Finance and Investment Symposium (Maastricht); AREUEA/AsRES Joint International Conference (Beijing); Asian Finance Association (AsianFA) Annual Conference (Shanghai); AREUEA/European Network of Housing Research (ENHR) Joint International Conference (Gävle).
- 1999: ASSA/AREUEA Annual Conference (New York); AREUEA/AsRES Joint International Conference (Maui).

- 1998: AsRES Annual Conference (Taipei); AREUEA/European Real Estate Society Joint International Conference (Maastricht).
- 1997: ASSA/AREUEA Annual Conference (New Orleans); AREUEA Summer International Conference (Berkeley); Asian Real Estate Society (AsRES) Annual Conference (Hong Kong).
- 1996: ASSA/AREUEA Annual Conference (San Francisco).
- 1995: Allied Social Science Associations (ASSA) / American Real Estate and Urban Economics Association (AREUEA) Annual Conference (Washington DC).
- 1994: NBER Summer Institute; NBER Research Conference on Public Policy and Housing Markets; American Real Estate Society (ARES) Annual Conference (Santa Barbra).
- 1993: NBER Summer Institute.

Other Invited Presentations

- 2017: Xiong'An Forum 2017 (Beijing); China-Singapore Suzhou Industrial Park (SIP) Lakeside Forum (Suzhou); People's Bank of China (PBoC) and Bank for International Settlements (BIS) Tenth Annual wlorkshop of the Asian Research Networks (Chengdu); Royal Institution of Chartered Surveyors (RICS) -- World Built Environment Forum Annual Summit, 2017 (Shanghai).
- 2016: Bank Negara Malaysia Bank for International Settlements (BIS) Conference on "Financial Systems and the Real Economy" (Kuala Lumpur); Macau Association of Building Contractors and Developers Bank of China Forum on "Financing the Affordable Housing" (Macau); Fortune Times Forum on the Future of REITs (Singapore).
- 2015: China Real Estate Fortune Annual Conference (Sanya); Dialogue on Suzhou Development (Suzhou); International Symposium on Land Resource Utilization & Management (Shanghai).
- 2014: World Economic Forum: China International Urbanization Forum 2014 (Shanghai); Yabuli China Entrepreneurs Forum 2014 (Zhengzhou, China); World Economic Forum Annual Meeting of the New Champions 2014 -- "Summer Davos" in Asia (Tianjin).
- 2013: World Economic Forum Annual Meeting of the New Champions 2013 -- "Summer Davos" in Asia (Dalian); World Economic Forum: China International Urbanization Forum 2013 (Shanghai); ANREV 2013 Investment Intentions Asia Pacific (Hong Kong); Real Estate Foresight China Property Outlook Seminar (Hong Kong); Singapore Management University SKB Institute for Financial Economics Conference on Index (Singapore); Shanghai Advanced Institute of Finance Sino-US Real Estate Finance Summit (Shanghai); Singapore Institute of Policy Studies Housing Conference (Singapore); 2nd Urban Land Institute Asia Pacific Sumit (Shanghai); Shanghai Advanced Institute of Finance Institute of Finance EMBA Open Lecture (Shanghai); China International Forum on Urban Sustainable Development (Guangzhou); 2nd Zhejiang Entrepreneur Conference (Hangzhou); Zhejiang International Forum -- Cultural and Product: High Quality Urban Development of Zhejiang (Hangzhou).
- 2012: World Economic Forum Annual Meeting 2012 at Davos (Switzerland); ANREV Young Professional Event 2012 (Singapore); Nomura China Investor Forum 2012 (Xiamen); "Today" show on China Radio International (Beijing).
- 2011: World Economic Forum Annual Meeting of the New Champions 2011 -- "Summer Davos" in Asia (Dalian); The 9th Singapore Chinese Chamber of Commerce & Industry-Business Times (SCCCI-BT) Outlook Forum "2011: Looking and Moving Beyond" Keynote Speech (Singapore); Investment Management Association of Singapore (IMAS) 12th Annual Conference 2011(Singapore).
- 2010: Asia Pacific Real Estate Association (APREA) Property Leaders Forum 2010 Keynote Speech (Singapore)
- 2009: Asia Commercial Real Estate Summit Keynote Speech (Beijing)
- 2007: Commercial Real Estate Finance Forum (CREFF) (Las Vegas)

TEACHING ACTIVITY

Courses Taught

NUS

Real Estate Finance Seminar (Real Estate Ph.D. program, RE6006) Research Methodology in Real Estate (Real Estate Ph.D. program, RE6004) Real Estate Finance and Securitization (MBA Real Estate, RE6001) Urban Economics, Real Estate Finance and Capital Markets (Master of Public Administration and Management, "MPAM", BMM5105) Real Estate Summer Program (Real Estate undergraduate program, RE4203) USC Applications in Advanced Quantitative Methods (Ph.D. program, PPD709) Mortgages, Mortgage-Backed Securities and Real Estate Capital Markets (MBA, FBE589) International Development Opportunities (Master of Real Estate Development Program, "MRED", RED585) Comparative International Development Workshop (MRED, RED583) Real Estate Capital Markets (MRED, RED544) Development Process (MRED, RED546) Real Estate Capital Markets (Finance and Business Economics undergraduates, FBE489) International Real Estate Seminars and Study Tours (Business Administration undergraduates, **BUAD499**) Real Estate Fundamentals for Planning and Development (Policy, Planning, and Development undergraduates, PLDV406)

Ph.D. Dissertations Supervised

2015 Zhao Daxuan (PostDoc, NUS, IRES) (Placement: Renmin University Business School)

- 2014 Xin Liu, (NUS, Finance), "Beyond the Financial System: The Real Effects of Bank Bailout." (Chair) (Placement: Australian National University)
- 2014 Jia He, (NUS, Real Estate), MC.31.66.24.837 21 >>[0ofe 489 -1.41()Tj EMP <<137.4572 (ai)8.3 (r)S2 (e)-1...

Series Dynamics of Commercial Mortgage Credit Risk." (Chair) (Placement: San Diego State University)

- 2007 Della Zheng, (USC, SPPD), "Essays on Market Behavior Analysis within the International Context." (Chair) (Placement: IndyMac Bank)
- 2007 Lanlan Wang, (USC, SPPD), "Essays in the Study of Institutions and Development." (Placement: Central University of Economics and Finance, China)
- 2007 Duan Zhuang, (USC, SPPD), "Redlining Revisited: Spatial Dependence and Neighborhood Effects in Mortgage Lending." (Placement: Countrywide Financial)
- 2007 Xiufang Li, (USC, Mathematics), "New Results on Pricing Asian Options."
- 2006 Qingzhong Ma, (USC, Marshall School of Business), "Essays on Mergers and Acquisitions, Investment Banking and Divestitures." (Placement: Cornell University)
- 2006 Kim, Soojung, (USC, SPPD), "New Approach to Measuring The Effects Of Infrastructure On Economic Performance: Us States Vs. Metropolitan Areas." (Placement: Milken Institute)
- 2006 Seungryul Ma, (Post-Doc, USC, SPPD), "Insurance Premium Structure of Reverse Mortgage Loans in Korea." (Chair) (Placement: Daegu University, South Korea)
- 2005 Qi Qin, (USC, Department of Economics (USC, Economics)), "The Decisions of Migration and Remittances in Rural China." (Placement: Wachovia Bank)
- 2004 Lihong Yang, (USC, SPPD), "Neighborhood Effects and Mortgage Prepayment." (Chair) (Placement: Credit Suisse First Boston)
- 2003 Jun Chen, (USC, SPPD), "Essays on Commercial Real Estate and Commercial Mortgages." (Chair) (Placement: Property & Portfolio Research)
- 2003 Cathy Karnchanasai, (USC, Economics), "Credit Constraints, High Fixed Costs, and the Asian Currency Crisis." (Placement: Bank of Thailand)

AFFILIATIONS

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