

Andrea Chegut

Curriculum Vitae

- Vision *My work applies tools from innovation theory to understand the lifecycle impact of design interventions on the financial value and economic growth of the built environment.*
- Interests *Urban innovation and technology, 21st century agglomeration, market structure and competition, data architecture, spatial econometrics, technology ecosystems for the built environment*
- Impact *H-index: 4, Citations: 219, Peer-Reviewed Publications: 5, Classes developed: 5, Funds Raised: \$641,000*
- Contact E-mail: achegut@mit.edu, MIT, 77 Massachusetts Avenue, Cambridge, MA 02139

ACADEMIC POSITIONS

- J2016–
Present **Research Scientist**, Massachusetts Institute of Technology.
Co-Founder and Director, *Real Estate Innovation Lab*.
Co-Founder and Head of Research, *DesignX*.
- A2014–
J2016 **Postdoctoral Research Associate**, Massachusetts Institute of Technology.
- D2013–
J2014 **Postdoctoral Fellow**, Maastricht University - Department of Finance.

EDUCATION

- 2009–2013 **PhD Finance**, Maastricht University, The Netherlands.
Dissertation Title, *Innovation in Commercial Real Estate*.
Committee, Prof. dr. Rob Bauer, Prof. dr. David Geltner, Prof. dr. Pierre Mohnen.
Supervisors, Prof. dr. Piet Eichholtz, Dr. Nils Kok.
- 2013–2013 **Visiting PhD Candidate**, Massachusetts Institute of Technology, United States.
- 2008–2009 **Msc. in Economics and Law**, Utrecht University, The Netherlands.
Thesis Title, *Assessing Social Responsible Investment Fund Performance Research: Best Practices in Empirical Analysis*.
- 2003–2004 **Bsc. in Economics**, College of Charleston, United States.
- 2003–2003 **Academic Exchange**, Georgetown University, United States.
- 1999–2003 **Ba. in Philosophy**, College of Charleston, United States.
Thesis Title, *Karl Marx's Predictions for the Banking Crises of 1863*.

PEER-REVIEWED PUBLICATIONS

The Value of Energy-Efficiency in Affordable Housing, *Energy Policy*, 2016, Volume 97, 39-39, with Piet Eichholtz (Maastricht University) and Rogier Holtermans (University of Southern California).

Spatial Dependence in International Office Markets, *Journal of Real Estate Finance and Economics*, 2015, Volume 51 (2), 317-350, with Piet Eichholtz (Maastricht University) and Paulo Rodriguez (Maastricht University).

Supply, Demand and the Value of Green Buildings, *Urban Studies*, 2014, Volume 51 (1), 22-43, with Piet Eichholtz (Maastricht University) and Nils Kok (Maastricht University).

The London Commercial Property Price Index, *Journal of Real Estate Finance and Economics*, 2013, Volume 47 (4), 588-616, with Piet Eichholtz (Maastricht University) and Paulo Rodriguez (Maastricht University).

Assessing SRI Fund Performance Research: Best Practices in Empirical Analysis, *Sustainable Development*, 2011, Volume 19 (2), 77-94, with Hans Schenk (Utrecht University) and Bert Scholtens (Groningen University).

BOOK CHAPTERS, INDUSTRY PUBLICATIONS, REPORTS

Innovation in the Built Environment: An Application of Energy Efficiency and Commercial Real Estate Innovation, 2017, *Chapter in Energy Efficiency and the Future of Real Estate*, Palgrave Macmillan, New York.

with Rogier Holtermans (University of Southern California) and Isabel Tausendschoen (University of Graz)

On the Cost of Building Green, *Dialogues: A Supplement to Institutional Real Estate Americas*, 2016, with Piet Eichholtz (Maastricht University) and Nils Kok (Maastricht University).

Waarde-effecten van duurzaamheidsinvesteringen in corporatiewoningen, *Report for the Nederlands Kadaster*, 2014, with Piet Eichholtz (Maastricht University), Rogier Holtermans (Maastricht University) and R. van Marwijk (Kadaster).

Determination of the Economic Outcomes of Energy Efficiency Retrofits, *Deliverable to Building Energy Efficiency for Massive Market Uptake - ENERFP7260039/BEEMUP*, 2014, with Piet Eichholtz (Maastricht University), Rogier Holtermans (Maastricht University), Nils Kok (Maastricht University) and Isabel Tausendschoen (Maastricht University).

Supply, Demand and the Value of Green Buildings, *Royal Institute of Chartered Surveyors Research Report*, 2012 (March), with Piet Eichholtz (Maastricht University) and Nils Kok (Maastricht University).

A Global Perspective on Green Value in Commercial Property, Chapter in *Sustainable Investment in Real Estate, 2011*, PEI Media UK, ISBN 978-1-904-696-95-7, with Nils Kok (Maastricht University).

WORKING PAPERS

Connecting Environmental Performance Analysis to Cash Flow Modeling for Financial Valuation of Buildings in Early Design, with Irmak Turan (Massachusetts Institute of Technology) and Christoph Reinhart (Massachusetts Institute of Technology).

The Price of Innovation: An Analysis of the Marginal Cost of Green Buildings, with Piet Eichholtz (Maastricht University) and Nils Kok (Maastricht University), Revise and Resubmit: *American Economic Review*.

Simultaneous and Solitary Spikes: Investment in Equipment and Buildings, with Jasper Brinkerink (Maastricht University) and Wilco Letterie (Maastricht University), under review: *Research Policy*.

The Energy Performance of Investment Spikes, with Jasper Brinkerink (Maastricht University) and Wilco Letterie (Maastricht University), under review: *Journal of Environmental Economics and Management*.

The Economics of Big Data: the Value of Real Estate Capital in the Digital Economy, *single author paper*.

Cost-effective and high performance renovation of existing residential multi-family buildings in three European countries, with Holger Wallbaum (Chalmers University of Technology), York Ostermeyer (Chalmers University of Technology) and Rolf Bastiaanssen (Delft University of Technology).

PROJECTS IN DEVELOPMENT

The Economic Impact of Architectural Design, with Christoph Reinhart, Irmak Turan and Daniel Fink.

The Economic Impact of Acceleration on Startup Firms, with Dennis Frenchman, Schery Bokhari and Isabel Tausendschoen.

The Economic Geography of 21st Century Agglomeration, with Dennis Frenchman, Annie Ryan and Isabel Tausendschoen.

Innovation Cities, Places and Stakeholders in China, with Dennis Frenchman, Andrea Chegut, Yuan Zhou and Yifei Lu.

Innovative Products, Spaces and Technology in Commercial Real Estate Development, with David Geltner.

The DESx 50: Measuring the Entrepreneurial Legacy of MIT School of Architecture and Planning, with Dennis Frenchman.

SELECTED ACADEMIC PRESENTATIONS

- December 2016 Sidewalk Labs - New York City, NY
- May 2016 Homer Hoyt Weimer School - West Palm Beach, FL
- April 2016 National American Planning Association - Phoenix Arizona
- November 2015 North American Regional Science Council - Portland, OR
- October 2014 MIT Center for Real Estate - Entrepreneurship Course Lecture in Cambridge, MA
- June 2014 Financial Management Association - Europe in Maastricht, Netherlands
- April 2014 MIT Sustainable Design - PhD Seminar Lab & Course Lecture in Cambridge, MA
- April 2014 Technical University of the Czech Republic in Prague, Czech Republic
- January 2014 ASSA, American Real Estate and Urban Economics Association, Poster Session, Philadelphia, Pennsylvania
- October 2013 MNM Real Estate Conference in Cambridge, Massachusetts
- June 2013 American Real Estate and Urban Economics Association in Jerusalem, Israel
- May 2013 MIT Center for Real Estate in Cambridge, MA
- May 2013 MIT Sensable City Lab in Cambridge, MA

- May 2012 Joint BIS-ECB-IMF-OECD International Conference on Commercial Property Price Indicators in Frankfurt, Germany
- March 2012 FSU-UF Symposium on Critical Issues in Real Estate in Gainesville, Florida
- January 2012 ASSA, American Real Estate and Urban Economics Association in Chicago, Illinois
- October 2011 ReCapNet Conference in Manheim, Germany
- Sept. 2011 Principals for Responsible Investing in Sigtuna, Sweden
- May 2011 Columbia The Earth Institute's International Sustainable Development Research Conference in New York City, New York
- January 2011 ASSA, American Real Estate and Urban Economics Association, Poster Session, Denver, Colorado
- October 2010 ReCapNet Conference in Manheim, Germany
- June 2010 American Real Estate and Urban Economics Association in Rotterdam, The Netherlands
- June 2010 European Real Estate Society in Milan, Italy
- May 2010 Principal for Responsible Investing, Copenhagen, Denmark

AWARDS AND HONORS

- 2016 Homer Hoyt Postdoctoral Fellow

FUNDED RESEARCH GRANTS

- 2016-Present **JLL Founding Partnership for Real Estate Innovation Lab (with Center for Real Estate)**, *DOL 50,000*.
Principal investigator in the real estate spaces that serve the entrepreneurship ecosystem.
- 2016-Present **STL Faculty Research Seed Grant (with Dennis Frenchman)**, *DOL 110,000*.
Principal investigator in the real estate spaces that serve the entrepreneurship ecosystem.
- 2015-2016 **Horizon 2020 Grant - REVALUE (with Piet Eichholtz and Rogier Holtermans)**, *EUR 266,000*.
Project Manager and Lead Researcher - Covering topics on the incorporation of energy efficiency value through appraisals in the commercial property portfolio throughout the European Union.
- 2014 **Conference Sponsorship, SWOL grant (with Piet Eichholtz)**, *EUR 2,000*.
- 2013 **Conference Sponsorship, Maastricht University Graduate School of Business and Economics (with Piet Eichholtz)**, *EUR 5,000*.
- 2013 **Foreign Research Scholarship, Maastricht University Graduate School of Business and Economics**, *EUR 4,000*.
- 2013 **Travel Grant, Real Estate Research**, *DOL 1,000*.
- 2011 **Conference Sponsorship, Maastricht University Graduate School of Business and Economics (with Piet Eichholtz and Nils Kok)**, *EUR 5,000*.
- 2010 **Travel Grant, American Real Estate and Urban Economics Association**, *DOL 1,000*.

- 2010–2014 **EU 7th Framework Project, Demonstration of Energy Efficiency through Retrofitting of Buildings - BEEM-Up, EUR 141,000.**
- 2010-2012: Project Manager and Lead Researcher - Covering topics on the micro-level valuation of energy-efficiency investments in the built environment, evaluation of energy performance contracts, government subsidies role in finance, building park models and strategic output for massive market uptake in the European Union.
 - 2010-2012: Work Package Manager - Presentations at consortium meetings, time management of multiple institutions deliverables, created three research consortiums with project participants, academic partners and CFOs of property companies (covering topics in financing energy-efficiency investments, stakeholder analysis of green-investments and research exchange round tables)
 - 2010-2014: Lead Researcher - Research report covering finance initiatives and special considerations in micro-valuation in energy-efficiency projects.

TEACHING EXPERIENCE

COURSE DEVELOPMENT, EXECUTIVE TEACHING AND CASE COMPETITIONS

- 2015-2016 **MIT Center for Real Estate Master course "Principals of Finance"**, *Approximately 30 students*, Foundations of Finance for Investment with Microsoft Excel.
- 2015-2016 **MIT Center for Real Estate Master course "Innovation in Products, Space and Technology in Commercial Development"**, *Approximately 15 students*, Links the economics of innovation to the commercial real estate development space by covering innovation theory, real estate finance and product, process and organizational innovations in the commercial property market.
- 2014-2016 **Coordinator for the Executive Master course "Real Estate Finance and Economics"**, *approximately 20 executives*, Covering urban economics and real estate markets, real estate valuation and investment at the micro-level, residential mortgage investments, macro-level real estate investment modeling.
- 2011-2012 **Developer, Course Coordinator and Academic Advisor for the Bachelor course "Global Real Estate Case Competition"**, *approximately 10 students* compete in the Cornell International Real Estate Case Competition annually. Covering urban economics and real estate markets, micro-valuation, real estate development and asset management.
- 2010-2012 **Finance Bachelor course "Finance with Excel"**, *approximately 50 students*, Covering advanced Excel tools for capital budgeting and valuation, portfolio analysis and the capital asset pricing model.

TEACHING ASSISTANCE

- 2015-2016 **MIT Center for Real Estate Master course (TA) "Real Estate Development Design Studio"**, *Approximately 35 students*, Covers design, creation, entitlement, development and micro-valuation of real estate development projects..
- 2014-2014 **Financial Economics Master course (TA) "Fixed Income Securities Management"**, *Approximately 30 students*, Covers asset pricing and financial performance analytics of fixed income securities (bonds, options and collateralized debt obligations.
- 2013-2013 **Entrepreneurship Master course (TA) "Entrepreneurial Finance"**, *Approximately 80 students*, Covers various forms of financing for small and medium enterprises.
- 2012-2012 **Finance Master course (TA) "Real Estate Finance and Economics"**, *approximately 20 students*, Covering urban economics and real estate markets, real estate valuation and investment at the micro-level, residential mortgage investments, macro-level real estate investment modeling.

- 2014-2014 **Finance Bachelor course (TA) "Finance"**, *approximately 100 students*, Covering capital budgeting and valuation, portfolio analysis and the capital asset pricing model.
- 2011-2013 **Finance Bachelor course (TA) "Banking"**, *Approximately 80 students*, Covering the determination of asset prices, the structure of financial markets, bank management, and the role of money in the economy.

THESIS SUPERVISION

- 2009-Present **Master (53 students) and Bachelor (7)**, Covering topics on spatial econometric methods in property indices, micro-valuation of energy-efficiency redevelopment projects, valuing innovation in the built environment, green building value, micro-valuation techniques for energy-efficiency redevelopment projects, energy-efficiency and data centers, private equity analysis, entrepreneurship and corporate social responsibility.

PRIVATE SECTOR EXPERIENCE

- April 2005 - **Analyst at Sherman Capital Markets, LLC**, *Private equity consumer finance company that originates, purchases and services asset backed and consumer assets.*
 January 2008
- Finance operations: Managed syndicated lending facility reporting, constructed monthly portfolio asset performance analysis of a multi-asset class pool of charge-off, bankruptcy, mortgage and student loan assets and filed legal documentation for ownership and re-sale of assets.
 - Asset pricing: Modeled and priced asset backed securities, e.g., mortgages, charge-offs.
 - Asset Management: Collateralized debt obligation pricing, legal management and re-valuation
- July 2004 - **Mortgage Analyst at Southcoast Community Bank**, *South Carolina.*
 March 2005
- Mortgage origination, secondary market re-sales and bookings.
- September **Clerk at Cutchin Law Firm**, *Real estate, corporate affairs and estate planning.*
 2003-May
- Case filing, creating real estate closing documents, real property title searching, corporate document filings
- 2004
- June **Research Assistant at Mercatus Center**, *Research Institute of George Mason University, Virginia.*
 2003-August
- Responsible for compiling database on government programs in education across government industries to be used in future research of the Government Accountability Project, <http://mercatus.org/government-accountability-project>
- 2003
- August **Property Manager at Islers Properties**, *Property Company, South Carolina.*
 2002-May
- Responsible for management and accounting of 28 apartment units in Charleston, South Carolina.
- 2003
- June **Research Assistant at The Simco Group**, *Financial Services Firm, South Carolina.*
 2002-August
- Responsible for compiling companies trade history into a dataset and compiling morning news briefings on nano technology firms.
- 2002

PUBLIC SPEAKING ENGAGEMENTS

- 2016 Keynote - Ernst and Young Future Cities Forum on "The Frontier of Real Estate"
- 2016 National Association of Real Estate Investment Managers in San Diego, CA on "The Cost of Green Building"
- 2016 2016 World Urban Regeneration Forum Organic Growth and Heritage Preservation in Shanghai, China on "The Real Estate Innovation Lab: Research and Development for the Built Environment"

- 2016 2016 World Urban Regeneration Forum Organic Growth and Heritage Preservation in Shanghai, China on "The Real Estate Innovation Lab: Research and Development for the Built Environment"
- 2016 30th Anniversary of the MIT & Tsinghua Architecture Studio in Beijing, China on "The Value of Sustainability: the Economic Outcomes of Green Buildings"
- 2016 Mongolian Ministry of Energy in Cambridge, MA on "The Value of Sustainability: the Economic Outcomes of Green Buildings"
- 2016 Schindlers Elevators in Cambridge, MA on "Real Estate Innovation"
- 2016 Unibail Rodamco in Cambridge, MA on "Real Estate Innovation"
- 2016 Keynote - The Hoyt Group Weimer School of Advanced Studies in Real Estate and Land Economics in Miami, FL on "Innovation in Commercial Real Estate"
- 2016 Corenet in Cambridge, MA on "Innovation in Commercial Real Estate"
- 2015 National Association of Real Estate Investment Managers in Cambridge, MA on "The Center for Real Estate"
- 2015 MIT CRE Back to School in San Francisco, CA on "Technology Value in Commercial Real Estate"
- 2014 MIT Energy Initiative in Cambridge, MA on "Energy Efficiency in the Built Environment: the Value of Innovation"
- 2014 Keynote - Eat the City Opinion Leader Forum in Den Hague, NL on "Innovation and Commercial Buildings: Value Drivers for the next Development Cycle"
- 2014 Building Cost Information Service in London, UK on "The Price of Innovation and Complexity"
- 2014 EU3 Summit in Prague, CR on "The State of Green Value in the EU"
- 2014 MIT CRE Partners Meeting in London, UK on "Green, Smart and Connected: Transforming Uncertainty into Value and Risk"
- 2014 Smart, Connected and Green: A Symposium on Innovation in Commercial Real Estate in Maastricht, NL on "The Value of Digital Real Estate"
- 2013 Keynote - Slovenian Green Building Council in Lubjiana, SL on "The Future of Real Estate"
- 2013 Real Capital Analytics in New York, NY on "The Value of Real Estate Capital in the Era of Big Data"
- 2013 Deutsche Bank RREEF in New York, NY on "The Value of Real Estate Capital in the Era of Big Data"
- 2011 RICS Sustainability Conference in London, UK on "Are green buildings worth more?"
- 2011 IPD-KTI Nordic Property Investment Conference in Copenhagen, Denmark on "ESG and Nordic Real Estate"
- 2011 EcoBuild in London, United Kingdom on "Green Real Estate and the UK"
- 2010 Dutch Green Building Council in Maastricht, the Netherlands on "ESG and Real Estate"
- 2010 Better Buildings Partnership in London, UK on "ESG and Real Estate"
- 2010 EcoBuild in London, UK on "Green Real Estate"

- 2016 Boston Inno, "How an MIT lab plans to build more data-driven cities", // <https://www.americaninno.com/boston/mit-real-estate-center-launches-innovation-lab-accelerator/>
- 2016 Curbed, "How an MIT lab plans to build more data-driven cities", // <https://www.curbed.com/2016/11/11/13598400/real-estate-innovation-mit-lab-urban-planning>
- 2016 MIT News, "Design Innovations for Improved Lives in Cities", // <http://news.mit.edu/2017/design-innovations-for-improved-life-in-cities-0613>
- 2016 Sidewalk Talks: Idea Tour, "The Value of Innovation in Affordable Housing", // <https://www.youtube.com/watch?v=P45UvIgkU8w>
- 2016 DesignX, "The Role of Research in Design Entrepreneurship", // <https://www.youtube.com/watch?v=hWV1YED0aD0>
- 2016 MIT News, "SA+P Launches the DesignX Accelerator", // <http://news.mit.edu/2016/entrepreneurship-designx-accelerator-1017>
- 2016 Green and Healthy Homes Conference, "Linking Design to Finance for Green and Affordable Homes", // <https://www.youtube.com/watch?v=-oaI7UrJlQo>
- 2016 MIT News, "Real Estate Innovation by the Numbers", // <http://news.mit.edu/2016/real-estate-innovation-lab-1103>
- 2016 MIT News, "DUSP CRE STL Lab Awards 11 million in Faculty Research Funding", // <http://news.mit.edu/2016/dusp-cre-stl-lab-award-11-million-faculty-research-funding-0711>
- 2014 Webinar with the European Center for Corporate Engagement, "The Value of Energy-Efficiency in the Housing Sector", // <http://www.corporate-engagement.com/event/42>
- 2013 Media Interview with Telecom Exchange, "The Value of Real Estate Capital in the Era of Big Data", // http://www.jaymiescotto.com/TEX2013_JSA_TV_interviews.htm
- 2013 Infographic with GeoTel TeleCommunications, "Why Technology is Redefining Real Estate?"

CONFERENCES

- 2016 Green and Healthy Homes: Exploring Finance, Investments and Outcomes (with Piet Eichholtz and Rogier Holtermans)
- 2015 NAREIM, Architects and Engineers, Center for Real Estate Academic Content Coordinator (with Gunnar Branson)
- 2014 International Conference Co-Chair, Smart, Connected and Green: A Symposium on Innovation in Commercial Real Estate, European Center for Corporate Engagement and MIT Center for Real Estate, Maastricht, the Netherlands, March 26, 2014 (with Piet Eichholtz, David Geltner and Nils Kok)
- 2011 International Conference Co-Organizer, Green Building Finance and Investments: Practice, Policy and Research, European Center for Corporate Engagement and University of California at Berkeley, Maastricht, the Netherlands. March 23-24, 2011 (with Piet Eichholtz, Nils Kok and John Quigley)

WORKSHOPS

- 2017 Workshop Director, REIL: Developing Differently, Housing Innovation Workshop, Cambridge, MA, September 15, 2017
- 2016 Workshop Director, REIL: Data at the Frontier of the Built Environment, Cambridge, MA, October 4, 2016
- 2012 Workshop Director, The Energy-Efficiency Development Decision: A Round Table on Critical Issues and Strategy, FP 7th Framework Project BEEM-Up, Maastricht Brussels Campus, Brussels, Belgium, March 12, 2012
- 2011 Workshop Director, Strategies for Energy-Efficiency Massive Market Uptake, FP 7th Framework Project BEEM-Up, Maastricht University, Maastricht, the Netherlands. March 21, 2011 (with Piet Eichholtz)

ACADEMIC SUMMER PROGRAMS

- 2011 **MIT summer mini-course - Jean Tirole - Economics and Psychology**, Cambridge, MA, Theoretical foundations of the domain Economics and Psychology.
- 2011 **Spatial Econometrics Advanced Institute**, Rome, Italy, 108 hours of class lectures and programming training from leading scholars in spatial econometrics including: Jean Paelinck, Harry Kelejian, Ingmar Prucha, Badi Baltagi, William Greene, Roger Bivand and David Drukker.
- 2009 **Institute for Cultural Diplomacy**, Berlin, Germany, Lectures, site visits to embassies and coursework in international diplomacy.
- 2003 **Englaitcheff Institute for Comparative Political and Economics Systems**, Washington, DC, Lecture series, site visits to White House, Supreme Court, Congress, CIA, Federal Reserve Board of Governors and debate training.

RESEARCH AFFILIATIONS

European Center for Corporate Engagement - ECCE

Research Fellow - <http://www.corporate-engagement.com/author/36>

European Property Research Institute - EPRI

Researcher - <http://epri.eu/people.html>

Social Investment Research Platform - SIRP

Researcher - <http://www.sirp.se/web/page.aspx?refid=443>

American Real Estate and Urban Economics Association - AREUEA

Member

SKILLS

Language Skills

English (Fluent)

Dutch (Working Proficiency (B1-))

French (Working Proficiency (B1-))

Computer skills

Statistical: Stata, R, Matlab, Excel; **Databases:** Microsoft SQL Certified, Access; **GeoDatabases:** ArcGIS10 Proficient Certified; **Text editing:** MS Word, L^AT_EX, Adobe Acrobat Suite - InDesign, Photoshop, Illustrator