

**PHILIP MULDER**

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**THE WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA**

Placement Director: Gilles Duranton	duranton@wharton.upenn.edu	215-898-2859
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**Contact Information**

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**Graduate Studies**

**The Wharton School, University of Pennsylvania, 2017 to present**

Thesis Title: “Essays on the Economics of Disaster Risk”

Expected Ph.D. Completion Date: May 2022

**Thesis Committee and References:**

Professor Olivia S. Mitchell (committee chair)  
The Wharton School, University of Pennsylvania,  
mitchelo@wharton.upenn.edu

Professor Benjamin J. Keys (dissertation supervisor)  
The Wharton School, University of Pennsylvania  
benkeys@wharton.upenn.edu

Professor Benjamin B. Lockwood  
The Wharton School, University of Pennsylvania  
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Professor Arthur van Benthem  
The Wharton School, University of Pennsylvania  
arthurv@wharton.upenn.edu

**Undergraduate Studies**

Bachelor of Arts, Mathematics and Economics (*summa cum laude*), Kalamazoo College, 2015

General Course, Mathematics, The London School of Economics, 2014

**Teaching and Research Fields:**

*Primary:* Real Estate and Household Finance, Environmental Economics, Applied Microeconomics

*Secondary:* Urban Economics, Public Economics

**Teaching Experience:**

Fall 2021	<i>Evaluating Evidence</i> , Wharton Guest Lecturer for Professor Iwan Barankay
Spring 2020	<i>Environmental and Energy Economics and Policy</i> , Wharton Teaching Assistant for Professor Arthur van Benthem
Fall 2019	<i>Honors Intermediate Microeconomics</i> , Wharton Teaching Assistant for Professor Gilles Duranton
2014-2015	<i>Probability, Calculus, and Real Analysis</i> , Kalamazoo College Teaching Assistant for Professor John Fink

### **Research Experience:**

2018-2020	Research Assistant to Professor Benjamin Keys The Wharton School
2015-2017	Senior Research Analyst Federal Reserve Bank of New York, Money and Payment Studies
2014	Summer Research Analyst Federal Reserve Bank of New York, Money and Payment Studies

### **Professional Activities**

2021	Discussant American Real Estate and Urban Economics Association National Meeting
2019	Invited Participant Berkeley/Sloan Summer School in Environmental and Energy Economics
Referee Service	Review of Economics and Statistics, Journal of Urban Economics, Journal of Pension Economics and Finance, Environment Systems and Decisions

### **Honors, Scholarships, and Fellowships:**

2020, 2021	Russell Ackoff Doctoral Student Fellowship
2019, 2020, 2021	Bradley Graduate Fellowship
2018	Amy Morse Award (top 1 <sup>st</sup> year Ph.D. student in Applied Economics)

### **Research Papers:**

#### **Mismeasuring Risk: The Welfare Effects of Flood Risk Information (JOB MARKET PAPER)**

Rapidly improving data and models are giving coastal homeowners more information about their disaster risk while also increasing insurance premiums for the highest risk homes. In this paper, I estimate the economic consequences of flood risk information with administrative flood insurance policy data and a novel survey measuring flood insurance demand, risk perceptions, and objective risk. To identify the effects of risk information, I use variation in flood risk classification driven by outdated elevation data that caused high-risk homes to be misclassified as low-risk. My findings show that flood risk classification provides valuable information to homeowners. Misclassifying high-risk homes as low-risk causes owners to underestimate their flood risk, invest less in risk-reducing adaptation, and buy less flood insurance despite substantially lower premiums. Embedding these estimates in a sufficient statistics model with dynamic risk and endogenous risk beliefs and adaptation, I find that identifying and pricing the estimated six million high-risk homes outside the floodplain would increase social welfare by \$30 billion over 10 years.

## **Neglected No More: Housing Markets, Mortgage Lending, and Sea Level Rise (with Benjamin Keys)**

In this paper, we explore dynamic changes in the capitalization of sea level rise (SLR) risk in housing and mortgage markets. Our results suggest a disconnect in coastal Florida real estate: From 2013-2018, home sales volumes in the most-SLR-exposed communities declined 16-20% relative to less-SLR-exposed areas, even as their sale prices grew in lockstep. Between 2018-2020, however, relative prices in these at-risk markets finally declined by roughly 5% from their peak. Lender behavior cannot reconcile these patterns, as we show that both all-cash and mortgage-financed purchases have similarly contracted, with little evidence of increases in loan denial or securitization. We propose a demand-side explanation for our findings where prospective buyers have become more pessimistic about climate change risk than prospective sellers. The lead-lag relationship between transaction volumes and prices in SLR-exposed markets is consistent with dynamics at the peak of prior real estate bubbles.

### **Conference Presentations:**

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| 2021 | American Real Estate and Urban Economics Association ASSA Meeting<br>Northeast Workshop on Energy Policy and Environmental Economics*<br>NBER Real Estate Summer Institute |
| 2020 | Urban Economics Association Virtual Meeting  |

## **What's at Stake? Understanding the Role of Home Equity in Flood Insurance Demand (with Yanjun Liao)**

Millions of homeowners are exposed to increasing financial risk from natural disasters. Yet, many households are uninsured against the costliest disaster: flooding. We show that low home equity is an important driver of low flood insurance take-up. To isolate the causal effect of home equity on flood insurance demand, we exploit price changes over the housing boom and bust. Insurance take-up follows house price dynamics closely, with a home price elasticity around 0.3. Multiple mechanism tests suggest that mortgage default acts as implicit disaster insurance. As a result, households do not fully internalize their disaster risk.

### **Conference Presentations:**

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| 2021 | Eastern Economics Association*<br>OSU PhD Real Estate Finance Conference<br>UCLA Climate Adaptation Symposium* |
| 2020 | Urban Economics Association Virtual Meeting*   |