Christopher Schang

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March 20, 2023

Application NBER Workshop
Graduate Student Workshop on Heterogeneous-Agent Macroeconomics

Dear Prof. Auclert, Prof. Bardóczy, Prof. Rognlie and Prof. Straub

I am a 4th-year Ph.D. student at the European University Institute supervised by Russell Cooper and Alexander Monge-Naranjo. My research focuses on quantitative macroeconomics with an interest in monetary policy, housing, and demographics.

As a reference, you can find Alex Monge-Naranjo's contact information at the bottom of this page. I have been a teaching assistant in his computational and numerical methods class, and he is familiar with my research and quantitative skills.

Please find attached my CV including coursework in macro completed during my Ph.D. as well as a statement outlining my motivation for the workshop.

Thank you for considering my application.

Sincerely,
Christopher Schang

Reference
Alexander Monge-Naranjo
Professor of Economics
European University Institute
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Christopher Schang - Curriculum Vitae

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Current Position

Ph.D. Candidate in Economics — *Florence, ITA*

European University Institute — *2019 - 2024 (expected)*

- Advisors: Russell Cooper and Alexander Monge-Naranjo
- Primary Field: Quantitative Macroeconomics
- Interests: Household Finance, Housing, Demographics

Education

European University Institute — *Florence, ITA*

M.Res in Economics — *2019 - 2020*

Ludwig Maximilian University — *Munich, DEU*

M.Sc. in Economics — *2016 - 2019*

Cornell University — *Ithaca, USA*

B.A. Economics & Philosophy — *2011 - 2015*

Work in Progress

Demographic Change and House Prices

MPC Heterogeneity and Monetary Policy Response of Mortgagors

with Russell Cooper, Chloe Larkou

Loan-to-Value Contraction: Aggregate, Distributional and Welfare Consequences

with Caterina Mendicino, Pablo Herrero

Research Assistance and Work Experience

European University Institute — *Florence, ITA*

Research Assistant to Russell Cooper — *2022 - 2023*

Deutsche Bundesbank — *Frankfurt, DEU*

Research Intern, Financial Stability DSGE Group — *2019*

Institute for the World Economy — *Kiel, DEU*

Research Intern, International Finance and Macroeconomics — *2018*

Ludwig Maximilian University — *Munich, DEU*

Research Assistant to Christoph Trebesch — *2017 - 2018*

Deutsche Bank — *New York, USA*

Analyst Intern — *2014*

Teaching

Computations and Quantitative Models in Macroeconomics — *Florence, ITA*

EUI Ph.D. Advanced Course , Teaching Assistant to Prof. Alexander Monge-Naranjo — *2022/23*

Macroeconomics I/II (Complete Markets and Dynamic Programming) — *Florence, ITA*

EUI Ph.D. Core Course , Teaching Assistant to Prof. Jesús Bueren — *2020/21, 2021/22 and 2022/23*

Macroeconomics I (OLG Macroeconomics) — *Florence, ITA*

EUI Ph.D. Core Course , Teaching Assistant to Prof. Russell Cooper — *2020/21*

Ph.D. Courses Macro

EUI Core Courses

Macroeconomics 1 - OLG Macroeconomics (Alexander Monge-Naranjo)
Macroeconomics 2 - Complete Markets and Dynamic Programming (Jesús Bueren)
Macroeconomics 3 - Search and Incomplete Markets (Philipp Kircher, Árpád Ábrahám)

EUI Advanced Courses

Computations and Quantitative Models in Macroeconomics (Alexander Monge-Naranjo)
Topics in Housing and the Macroeconomy (Antonia Díaz)
Dynamic Factor Demand (Russell Cooper)
Labor Markets, Inequality (Alexander Monge-Naranjo)
Household Finance (Russell Cooper, Jesús Bueren)
Lessons from the 21st Century crises (Ramon Marimon)
Macroeconomics and Household Finance (Nils Grevenbrock)
Macro-Finance and Policy Design (Ramon Marimon)
Macroeconomics with Asset Bubbles (Francisco Queirós)

Additional Coursework

"Numerical Methods" by Prof. Florian Oswald *Paris, FRA*
CIVICA Online Workshops, Sciences Po *2021*

"Economic Growth" by Prof. David Weil *Kiel, DEU*
Advanced Studies Program, Institute for the World Economy *2018*

"Monetary Economics" by Prof. Pierpaolo Benigno *Kiel, DEU*
Advanced Studies Program, Institute for the World Economy *2018*

Skills & Languages

Languages English (fluent), German (native)
Software Julia, Matlab, Stata, Python, Dynare, Latex

Awards & Grants

2022/23 **EUI 4th-Year-Grant**
2019-2023 **DAAD Ph.D. Scholarship**

Motivation for Graduate Student Workshop on Heterogeneous-Agent Macroeconomics

I am a 4th-year Ph.D. researcher at the European University Institute (EUI), supervised by Russell Cooper and Alexander Monge-Naranjo, and work predominantly on quantitative macroeconomics with heterogenous agents. I have extensive experience in working with, coding, and teaching heterogeneous agent models and believe I would highly benefit from being exposed to frontier topics at the workshop.

As part of my Ph.D. I work on three projects in quantitative macroeconomics: My main project *Demographic Change and House Prices* investigates the effects of demographic change on housing markets and prices from a quantitative general equilibrium perspective. I document demographic effects on house prices and their interaction with rates of return along a transition spanning past, present, and future. The project *MPC Heterogeneity and Monetary Policy Response of Mortgagors* joint with Russell Cooper and Chloe Larkou explores the consumption behavior of households separated by tenure choice. The third project *Loan-to-Value Contraction: Aggregate, Distributional, and Welfare Consequences* with Pablo Herrero and Caterina Mendicino investigates the distributional and welfare consequences of an implementation of a Loan-to-Value requirement. Before commencing with the Ph.D. I worked on a HANK model à la Bayer et al. (2019) in Python with the aim to study how countries with different household portfolio compositions respond to monetary policy as part of my master's thesis.

As a teaching assistant to Alex Monge-Naranjo for the course Computations and Quantitative Models in Macroeconomics I developed and coded problem sets and was given the chance to hold one of the lectures. Problem sets included solving the Aiyagari model, calculating transition dynamics and MIT shocks with and without sequence-space jacobians, calculating the Krusell-Smith economy, and solving for discrete choices with extreme value shocks. The lecture I gave was on sequence-space jacobians and how to use them to estimate shock processes of a simple heterogeneous agent model.

I believe that I have a good grasp of advanced numerical methods and would highly benefit from the graduate workshop on Heterogeneous-Agent Macroeconomics given my interest in quantitative research. In particular, I expect to gain insights and practical experience in estimating, potentially complex, heterogeneous agent models. On the economic side, I hope to increase my familiarity with fiscal and monetary policy in the context of heterogeneous agent models.

Thank you for your consideration and I am looking forward to hearing from you.

Sincerely,
Christopher Schang