Matthieu Stigler

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Research Interests

Economics: Agricultural and environmental economics using remote sensing.

Econometrics: Time series, impact evaluation, statistical learning for causal inference.

Employment

University of Geneva
Switzerland, 2024
Assistant Professor, Geneva School of Economics and Management

ETH Zurich
Switzerland, 2021-2023
Research Fellow at the *Environmental Policy Lab,* with Prof. Rachael Garrett

Stanford University
USA, 2019-2021
Post-doctoral Fellow at the *Center on Food Security and the Environment,* with Prof. David Lobell and Marshall Burke

Education

UC Davis
USA, 2014 -2019
Phd in Agricultural and Resource Economics
- Thesis: "Disentangling area and yield effects in supply response"

University of Geneva
Switzerland
2003-2008
Master and Bachelor in Economics
- *Master thesis grade of 5.75/6, won Arditi prize in economics*

Work Experience

2014 **Research Institute of Organic Agriculture, Switzerland, www**
Consultant, with Dr. Dominique Barjolle

2012-2013 **Centre for Finance and Development, IHEID, Geneva, Switzerland,** www
Research and teaching assistant, with Prof J.L. Arcand

2010-2012 **Food and Agriculture Organization for the UN (FAO),** Rome, Italy, www
International consultant, with Dr A. Prakash, Dr C. Cafiero

2009 **Federal Agricultural Research Institute (Agroscope),** Tänikon, Switzerland, www
Research associate, with Dr. Dr. S. Mann

2008-2009 **National Institute for Public Finance and Policy (NIPFP),** Delhi, India, www
Research and teaching associate, with Dr. A. Shah and Dr. I. Patnaik

2008 **Institute of Land Use Policies and Human Environment,** University of Lausanne, Switzerland, www
Research associate, with Prof. S. Erkman

PUBLICATIONS

2026 Deforestation-focused policies do not reduce degradation in the Brazilian Amazon (with Cammelli et al), *PNAS*, www

Zero-deforestation commitments in Indonesia's palm oil sector achieve high compliance but no additionality, (first author), *PNAS*, www

Harnessing adaptation has increased French apple yields but heat stress mitigation will become essential by 2050, (with Giguère et al.), *Nature Food*, www

2025 Causal Inference with Predicted Outcomes: Correcting prediction error bias in satellite-based impact evaluation. (with Pelletier et al.) *Journal of Developement Economics* *www*

2024 How well does the implementation of corporate zero-deforestation commitments in Indonesia align with aims to halt deforestation and include smallholders? (with Adelina Chandra et al.) *Environmental Research Letters*, 19:4 www

Researchers' Degrees-of-Flexibility and the Credibility of Difference-in-Differences Estimates: Evidence From the Pandemic Policy Evaluations (with Joakim Weil et al.) *Economic Inquiry, 1–22, www*

2023 Optimal index insurance and basis risk decomposition: an application to Kenya. *American Journal of Agricultural Economics (with David Lobell) www*

2022 Using Satellite Imagery and Machine Learning to Estimate the Livelihood Impact of Electricity Access, *Nature, 611:7936* (with N. Ratledge et al.) *www*

Exposures and Behavioural Responses to Wildfire Smoke, *Nature Human Behaviour,* Vol. 6, p. 1351–1361, *(with M. Burke et al.) www*

The Effects of Agricultural Policy on Supply and Productivity: Evidence from Differential Changes in Distortions, *Agricultural Economics, 54:44* (with N. Hendricks et al.) *www*

2020 Social Distancing Responses to COVID-19 Emergency Declarations Strongly Differentiated by Income. *Proceedings of the National Academy of Sciences* July 2020, (with J. Weill, O Deschenes and M. Springborn) www

2019 tsDyn: Threshold cointegration: overview and implementation in R, *Handbook of Statistics, Volume 41*, Elsevier www

WORKING PAPERS

- *Incomplete adoption and implementation of zero-deforestation commitments drives leakage and laundering in the Brazilian cattle sector*. Second author, with S. Levy et al.
- *With big data come big problems: pitfalls in measuring basis risk for crop index insurance*. With David Lobell. pdf
- *On the benefits of index insurance in US agriculture: a large-scale analysis using satellite data*. With David Lobell. pdf
- *Supply response at the field-level: disentangling area and yield effects*. pdf
- *Global Yield Distributions since 1960*. With Nathan Hendricks. pdf

Invited Presentations

2026 *Paris School of Economics, WCERE Congress, Montpellier CEE-M, Saint Gall University*

2025 Graduate Institute, Geneva, *Cattle Supply Chains and Deforestation in Brazil*

EAAE Congress, Bonn, *Cattle Supply Chains and Deforestation in Brazil*

2023 Smallholder finance Workshop, Nairobi, *Designing Index Areas to Improve Quality*

EAAE Congress, Rennes, *With big data come big problems: pitfalls in measuring basis risk for crop index insurance*

Land Policy and Economic Development Workshop, University Zurich, *Using remote sensing data to study economic development: applications from Uganda and Kenya*

Economic seminar, Wageningen University, *With big data come big problems: pitfalls in measuring basis risk for crop index insurance*

Workshop on Advanced Methods for Data Collection and Use in the Social Sciences, ENS Lyon, *Remote Sensing in Agriculture and Causal Inference*

Risk Mathematics Seminar, ETH Zurich, *With big data come big problems: pitfalls in measuring basis risk for crop index insurance*

2022 FLARE conference, Rome, *Are supply-chain deforestation initiatives effective? The effects of zero-deforestation commitments in Indonesia's palm oil sector*

2020 Agricultural Policy Conference 2020 : *Farm- or area-based insurance? New insights from satellite data.* www

AAEA Annual (online) meeting : *Farm- or area-based insurance? New insights from satellite data.* www

AAEA Annual (online) meeting : *Global Yield Distributions since 1960*, with N. Hendricks. www

UC Davis, Big Ag Data Conference : *Farm- or County-level Crop Insurance? New Insights From Satellite Data*, www

2019 AAEA annual meeting, Atlanta : *Agricultural supply: do markets anticipate weather shocks?* Poster

AGU Fall Meeting : *What do we learn from higher-resolution satellite data?* Poster

UC Davis, Big Ag Data Conference : *From adaptive binning to splines: experimenting with the FDA toolbox for the yield-temperature relationship*

Stanford University, *The dynamics of agricultural supply: disentangling area and yield response in the US Corn Belt*

2018 AAEA annual meeting, DC : *Supply response at the yield level: Disentangling area and yield effects*, AAEA, DC

ETH, Zurich : *Supply response as seen from the sky: Disentangling intensification from extensification in the US Corn*

2011 Invited keynote speaker to Agri-Business event, *Theoretical and empirical properties of commodity prices,* EAAE 2011 Congress, Zurich, www

EAAE Congress, Zurich : *When bad news becomes panic: an asymmetric Markov Switching GARCH model for the wheat market*

2010 University of Göttingen, Germany : Invited discussant of Araujo, S., PhD seminar

University of Göttingen, Germany, Workshop on Econometric Aspects of Price Transmission: tsDyn: a collection of threshold models for Price transmission analysis

2009 *NIPFP Research Meeting, India: Central Bank preventing Appreciation/Depreciation,* pdf

REFEREE

Journals: Science, PNAS, Journal of Development Economics, American Journal of Agricultural Economics (AJAE), European Review of Agricultural Economics (ERAE), Global Environmental Change, Computational Statistics and Data Analysis, Spanish Journal of Agricultural Economics

AWARDS

SNF Starting Grant, CHF 1.8 M

SNF Ambizione grant, CHF 800K

Funige research grant, CHF 126K

SPIA research grant, USD 36K

SFIAR Team award led by co-author Samuel Levy, www

UC Davis dissertation year fellowship

Fulbright Scholarship for a PhD program in the USA

Arditi Fundation Prize best Master Thesis in economics, $5'000, Switzerland

Grant of $25'000 from Fund for Innovation and Efficiency, FAO

Prize for excellency in Latin and ancient Greek studies, High School, Switzerland

Literature prize for a text published in Book : « 20 Years of Civil Service »

TEACHING ACTIVITIES

Teacher, Environmental Economics and Climate Change, master level, UNIGE, www

Guest lecture, Advanced Environmental and Climate Economics, PhD level, IHEID

Teaching assistant, UC Davis. Econometrics (240A, 240B), microeconomics (204A)

Transparency in Research, instructor for the BITSS workshop in Colombia. www

Econometric time series, National Institute for Public Finance and Policy, India

Introduction to the R software, FAO, Rome (4 days session), WTO, Geneva (2 days)

Computer Skills

Statistical software:	Advanced R, Matlab, LaTeX (edited two books : pdf and www)
R packages developed:	-**tsDyn :** *Nonlinear time series models with regime switching*, www -**RDDtools**: a toolbox for regression discontinuity design, www -**RcompHam94** *: replicating Hamilton's Time Series Analysis*, www
R packages maintainer:	-**lfe**: *Linear Group Fixed Effects*, www -**partsm**: *Periodic Autoregressive Time Series Models*, www -**rgee:** R interface to Google Earth Engine, www
R packages contributor:	**Urca** (www), **vars** (www), **broom** (www), **classInt** (www), **xtable** (www), **rsdmx** (www)

Language Skills

French	First language. Excellent oral and written skills (literature Prize)
English	Excellent oral and written skills (Toefl : 115/120, GRE : 95%)
German	Excellent oral and written skills
Spanish	Excellent oral skills, good written skills
Italian	Good oral skills
Hindi	Basic conversation

References

Prof. **David Lobell**, Postdoc supervisor, Stanford University, www

Prof. **Marshall Burke**, Postdoc supervisor, Stanford University, *www*

Prof. **Salvatore di Falco**, colleague, University of Geneva, www