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Centre for Development Economics & Sustainability

Monash University, 900 Dandenong Road

Melbourne, Australia

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## ACADEMIC POSITIONS

### Monash University

Senior Research Fellow, Centre for Development Economics & Sustainability (2022–)

Monash Data Futures Institute Affiliate (2022–)

Monash Sustainable Development Institute Affiliate

Monash Impact Labs Affiliate (2023–)

### University of Sydney

Lecturer (Assistant Professor), School of Economics (2020–2022)

Member, Sydney Institute of Agriculture (2021–2022)

### University of Wisconsin, Madison

Assistant Professor, Robert M. La Follette School of Public Affairs (2015–2020)

Assistant Professor, Agricultural and Applied Economics (2016–2020)

Center for Demography and Ecology: Faculty affiliate (2016–2020)

UW Center for Financial Security: Faculty affiliate (2017–2020)

African Studies Program: Faculty affiliate (2018–)

## EDUCATION

**Ph.D. University of California, Davis**, Agricultural & Resource Economics (2009–2015)

**Lund University**, Graduate student, School of Economics and Management (2008–2009)

**B.A. Colby College**, Economics, (Mathematics minor), *Summa Cum Laude* (2002–2006)

## AFFILIATIONS

Member, CGIAR's Independent Advisory and Evaluation Function (IAES) Subject Matter Expert Roster

Invited Researcher, Abdul Latif Jameel Poverty Action Lab (J-PAL)

## AWARDS & HONORS

- Monash Business School Dean's Award for Excellence in Research by an Early Career Researcher 2022
- AAEE Africa Section Award: Best Publication of 2022 for "Filling a Niche? The Maize Productivity Impacts of Adaptive Breeding by a Local Seed Company in Kenya"
- Leading Researcher in Development Economics in The Australian's 2020 Special Report on Research
- AAEE's Outstanding AJAE Article for "Money Matters: The Role of Yields and Profits in Agricultural Technology Adoption"
- Association for Public Policy Analysis and Management, 40 for 40 Fellowship, 2018
- Taylor Hibbard award for Excellence in Graduate Teaching, 2018 (based on student vote)

- Gordon A. King Best Dissertation Award, UC Davis Agricultural & Resource Economics (2015)
- Henry A. Jastro Graduate Research Fellowship, UC Davis (2012-2013)
- Departmental Fellowship, Agricultural and Resource Economics, UC Davis (2009-2010)
- Phi Beta Kappa, Colby College (2016)

## RESEARCH OUTPUTS

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### JOURNAL ARTICLES

- BIRD, S. S., M. R. CARTER, T. J. LYBBERT, M. MATHENGE, T. NJAGI, AND E. TJERNSTRÖM (2022): “Filling a Niche? The Maize Productivity Impacts of Adaptive Breeding by a Local Seed Company in Kenya,” *Journal of Development Economics*, 157, 102885.
- TJERNSTRÖM, E., T. J. LYBBERT, R. F. HERNÁNDEZ, AND J. S. CORREA (2021): “Learning by (Virtually) Doing: Experimentation and Belief Updating in Smallholder Agriculture,” *Journal of Economic Behavior & Organization*, 189, 28–50.
- MICHLER, J. D., E. TJERNSTRÖM, S. VERKAART, AND K. MAUSCH (2019): “Money Matters: The Role of Yields and Profits in Agricultural Technology Adoption,” *American Journal of Agricultural Economics*, 101, 710–731.
- CARTER, M. R., E. TJERNSTRÖM, AND P. TOLEDO (2019): “Heterogeneous Impact Dynamics of a Rural Business Development Program in Nicaragua,” *Journal of Development Economics*, 138, 77–98.
- BROWN, P., A. J. DAIGNEAULT, E. TJERNSTRÖM, AND W. ZOU (2018): “Natural Disasters, Social Protection, and Risk Perceptions,” *World Development*, 104, 310–325.
- BARRIGA CABANILLAS, O., J. D. MICHLER, A. MICHUDA, AND E. TJERNSTRÖM (2018): “Fitting and Interpreting Correlated Random Coefficient (CRC) Models Using Stata,” *Stata Journal*, 18, 159–173.
- TJERNSTRÖM, E., M. R. CARTER, AND P. TOLEDO (2013): “Identifying the Impact Dynamics of a Small Farmer Development Scheme in Nicaragua,” *American Journal of Agricultural Economics, Papers and Proceedings*, 95, 1359–1365.
- TJERNSTRÖM, S. AND E. TJERNSTRÖM (2008): “Rational Foolishness Would Destroy a Public Service Broadcasting System,” *Journal of Media Economics*, 21, 258–263.
- TJERNSTRÖM, E. AND T. H. TIETENBERG (2008): “Do Differences in Attitudes Explain Differences in National Climate Change Policies?” *Ecological Economics*, 65, 315–324.

### WORKING PAPERS

- “Relaxing Multiple Agricultural Productivity Constraints at Scale,” with Joshua Deutschmann, Maya Duru, and Kim Siegal. Previous version circulated under “Information, Credit, and Inputs: the Impacts and Mechanisms of a Program to Raise Smallholder Productivity” (NBER Working Paper No. 26054) ([Revision invited at Journal of Development Economics](#))
- “A Group Random Coefficient Approach to Modeling Heterogeneity in Technology Adoption,” with Oscar Barriga Cabanillas, Dalia Ghanem, Travis Lybbert, Jeffrey D. Michler, and Aleks Michuda ([Revision invited at Econometrica](#))
- “Selection and Heterogeneity in the Returns to Migration,” with Eduardo Cenci and Marieke Kleemans

- “Media and Motivation: the Effect of Performance Pay on Writers and Content,” with Ivan Balbuzanov and Jared Gars
- “Learning from Others in Heterogeneous Environments.” Previous version circulated under “Signals, Similarity, and Seeds: Social Learning in the Presence of Imperfect Information and Heterogeneity”
- “Air Pollution and Mental Well-being: Evidence from Australia,” with Valentina Duque, Zachary Duretto, and Josh Merfeld
- “Seeds of Uncertainty: Information, Subjective Expectations, and Technology Adoption,” with Jared Gars

## WORK IN PROGRESS (READ: ALMOST-WORKING PAPERS)

- When Intentions Matter—Identifying the Prevalence and Source of Poor-quality Inputs in Kenya  
*with Jose Clavijo and Travis Lybbert*
- Do Taxes on Sugar-Sweetened Beverages Affect Household Consumption? Evidence from the Philippines  
*with Aladdin Roxas Ko*
- Nonlinear Pricing Complexity and Consumer Behavior  
*with Joshua Deutschmann and Jeff Michler*
- Arrested Development: the Inefficiencies of Electoral Cycles in Infrastructure Projects  
*with Evan Morier*
- The Dirt on Dirt: Soil Characteristics and Variable Fertilizer Returns in Kenyan Maize Systems  
*with Michael Carter and Travis Lybbert*
- Income Volatility and Technology Choice  
*with Rachel Hernández Frattarola*

## OTHER WRITING

- “[Agricultural Technology Adoption in Africa, VoxDevLit Review](#)” (2022) Co-editor.  
Editors: Tavneet Suri and Chris Udry; co-editors: Jenny C. Aker, Chris Barrett, Lauren Falcao Bergquist, Thomas Jayne, Jeremy Magruder, Hope Michelson, Meredith Startz, Emilia Tjernström  
v.2 (2024) co-editors: Jenny Aker, Chris Barrett, Lauren Falcao Bergquist, Michael R. Carter, Lorenzo Casaburi, Robert Darko Osei, Douglas Gollin, Vivian Hoffman, Thomas Jayne, Naureen Karachiwalla, Harounan Kazianga, Jeremy Magruder, Hope Michelson, Meredith Startz, Emilia Tjernström
- “[Local Seed Company Fills a Niche to Increase Maize Productivity in Kenya](#)” (2017) Carter, Michael, Mary K. Mathenge, Sam Bird, Travis J. Lybbert, Timothy Njagi, and Tjernström, Emilia BASIS Brief No. 2017–01.
- “[Diverse Soils and Inputs Challenge Recommendations to Maize Farmers in Kenya.](#)” (2017) Tjernström, Emilia, Michael Carter, and Travis J. Lybbert. BASIS Brief No. 2017-03
- “Learning for Adopting: Signals, Similarity and Seeds: Social Learning in the Presence of Imperfect Information and Heterogeneity” (2016) In [Technology Adoption in Developing Country Agriculture](#) Policy Briefs from the Workshop Organized by Ferdi and SPIA, Clermont-Ferrand.
- “[Learning-by-doing vs. Learning-from-others: Heterogeneity Matters](#)” (2015) BASIS Brief No. 2015-01
- “[Spurring Technological Innovation and Poverty Reduction? Evaluating the Impact of a New Seed Market Actor in Kenya](#)” (2014) Carter, Michael R., Travis J. Lybbert, Mary K. Mathenge, and Emilia Tjernström BASIS Brief No. 2014-04

- “Investing in Small-Farm Productivity: the Nicaragua MCC Compact” (2012) Carter, Michael R., Emilia Tjernström, and Patricia Toledo. BASIS Brief No. 2012-6
- “Price Premiums for Organic Strawberries” (2012) Carroll, Christine, Diane Charlton, and Emilia Tjernström *Agricultural and Resource Economics Update*, 15(6):12–14.
- “Kunnigt och (o)kontroversiellt om Råvarumarknaden” (Book Review of ‘*Handbook of Primary Commodities in the Global Economy*’) (2009) Tjernström, Emilia *Ekonomisk Debatt*, 37(3):85–88.

## MEDIA COVERAGE

2019 **The Economist:** [Better Seeds Could Help African Farmers Grow Far More](#)

2017 [GCFSI Innovators Develop Virtual Game to Benefit Maize Farmers](#)

2016 [Bringing Farmville to the Tropics: App-based Simulations to Guide Fertilizer Recommendations](#)

2016 [Interview with Global Center for Food Systems Innovation](#) (*Video interview*)

2016 [Ignite Talk: Bringing Farmville to the tropics](#) (*Brief video presentation*)

2016 [Communicating Scientific Research: Bringing Farmville to the Tropics](#)

## RESEARCH INCOME

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### EXTERNAL GRANTS

*\$ means USD unless otherwise indicated*

2024-2026 **Title:** The Impact of Shock-responsive Social Protection in Fiji (\$249,990)

**Funder:** J-PAL Social Protection Initiative

**Collaborator(s):** Russell Toth

2024-2025 **Title:** Climate Information and Farm Productivity (GBP\$100,000)

**Funder:** International Growth Centre

**Collaborator(s):** Wang Lee, Seneshaw Tamru, Mekonnen Bekele Wakeyo

2023-2025 **Title:** Agricultural Productivity, Poverty, and the Environment (AU\$323,360)

**Funder:** Collaboration for Knowledge, Innovation, and Technology Australia and Indonesia (KONEKSI) Environment and Climate Change Collaborative Research Grant

**Collaborator(s):** Ryan Edwards, Alin Halimatussadiah, and J-PAL South East Asia

2022-2024 **Title:** Investigating the Impacts of Climatic Shock-responsive Social Protection in Fiji (\$9,999)

**Funder:** Social Protection Initiative at Abdul Latif Jameel Poverty Action Lab (J-PAL)

**Collaborator(s):** Russell Toth

2021-2023 **Title:** Sustainable Spillovers: Health and Environmental Impacts of Solar Energy Adoption (\$61,717)

**Funder:** King Climate Action Initiative at Abdul Latif Jameel Poverty Action Lab (J-PAL)

**Collaborator(s):** Lori Beaman, Joshua Deutschmann, and R. Subramanian

2021-2022 **Title:** Diffusion and Adoption of Labor-saving Technology in the Presence of Complementarity with other Inputs, Intra-household Frictions, and Coordination Costs (\$49,982)

**Funder:** CGIAR (SPIA) Pilot grant

**Collaborator(s):** Lori Beaman and Jeremy Magruder

- 2020-2024 **Title:** Market-Level Effects of Competition in Agricultural Input Markets: Prices, Quality, and Mechanisms (\$480,000)  
**Funder:** National Science Foundation Economics  
**Collaborator(s):** Jeremy Foltz, Joshua Deutschmann
- 2020-2022 **Title:** Market-Level Effects of Competition: Prices, Quality, and Mechanisms  
**Funder:** Private Enterprise Development in Low-Income Countries (PEDL) Major Grant (£440,000)  
**Collaborator(s):** Maya Duru and Laura Schechter
- 2018-2018 **Title:** Media and Motivation: the Effect of Performance Pay on Writers and Content  
**Funder:** IFREE Small Grants Program (\$9,800)  
**Collaborator(s):** Ivan Balbuzanov & Jared Gars
- 2018-2018 **Title:** An Experiment on Framing and Referrals to Boost Impact Investing  
**Funder:** University of Chicago (\$2,857)  
**Collaborator(s):** Angelino Viceisza
- 2017-2018 **Title:** Constructing Compliance: Reducing Tax Evasion Among Market Traders in Ghana  
**Funder:** Economic Development and Institutions (EDI) pilot grant (\$18,027)  
**Collaborator(s):** Nicole Bonoff
- 2018-2018 **Title:** Baseline for an Information Intervention in the Agro-inputs Market in Kenya (\$22,980)  
**Funder:** PEDL Exploratory Research Grant  
**Collaborator(s):** Travis Lybbert
- 2016-2017 **Title:** Testing Supply Chains for Fraudulent Fertilizer to Improve Regulation, Policy and Market Performance for Agro-inputs in Sub-Saharan Africa (\$47,100)  
**Funder:** Kohl Competition Award  
**Collaborator(s):** Travis Lybbert
- 2016-2016 **Title:** Impact Evaluation of AGRA’s Financial Inclusion Programmes for Smallholder Farmers in Kenya (\$20,000)  
**Funder:** 3ie & AGRA  
**Collaborator(s):** Karl Hughes, Sarah Janzen, Judith Oduoul, and Laura Schechter
- 2016-2020 **Title:** Harnessing Interdependency for Resilience: Creating an Energy Sponge with Cloud Electric Vehicle Sharing (\$1,686,426)  
**Funder:** NSF CRISP Type 2: Collaborative Research Grant  
**Collaborator(s):** Xiaopeng Li, Xin Wang, Kaibo Liu, Feng Ju, Jianhui Wang
- 2016-2017 **Title:** Bringing “FarmVille” to the Tropics: App-based Simulations to Build Farmers’ Understanding of Customized Fertilizer Recommendations (\$96,000)  
**Funder:** Global Center for Food Systems  
**Collaborator(s):** Travis Lybbert
- 2015-2016 **Title:** Counterfeit Seed: Using Genetic Markers to Quantify the Prevalence of Counterfeit Maize Seed in Kenya (\$25,000)  
**Funder:** Development Impact Lab (DIL) Innovate Grant  
**Collaborator(s):** Travis Lybbert
- 2013-2016 **Title:** Evaluating the Socio-economic Impacts of Western Seed’s Hybrid Maize Program (\$424,000)  
**Funder:** USAID BASIS Assets and Market Access Innovation Lab  
**Collaborator(s):** Michael Carter, Travis Lybbert and Mary Mathenge

- 2013-2016 **Title:** Impact of Mid-altitude Hybrid Maize in Western Kenya (\$345,000)  
**Funder:** Agricultural Technology Adoption Initiative  
**Collaborator(s):** Michael Carter, Travis Lybbert and Mary Mathenge
- 2013-2016 **Title:** Impact Evaluation of Western Seed Company's Hybrid Maize Program (\$286,000)  
**Funder:** Bill and Melinda Gates Foundation  
**Collaborator(s):** Michael Carter, Travis Lybbert and Mary Mathenge
- 2006-2007 **Title:** Nomad's Land – Development, Conservation and Nomads (\$25,000)  
**Funder:** Watson Fellowship, Thomas J. Watson Foundation

## PROFESSIONAL ACTIVITIES

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### INVITED SEMINARS & PANELS

+ indicates upcoming; \* indicates canceled due to COVID-19

- 2024 IGC Conference panelist (“Resilient Ethiopia, Sustainable Growth in a Changing Climate”); University of Adelaide; University of Sydney<sup>+</sup>; Australian National University<sup>+</sup>
- 2023 University of Illinois Urbana-Champaign
- 2022 University of Melbourne
- 2021 ANU Crawford School of Public Policy
- 2020 \*Workshop on Air Quality Monitoring with Low-Cost Sensors, \*Kigali Collaborative Research Center, Rwanda; \*Australian National University; \*University of New South Wales; \*University of Melbourne
- 2019 Northwestern University; University of Illinois Urbana-Champaign; University of Sydney; Lund University; Yale Research Initiative on Research and Scale (Y-RISE); International Food Policy Research Institute (IFPRI)
- 2018 University of California, Davis (Ag & Resource Economics); Michigan State University; University of Copenhagen
- 2017 BASIS / Feed the Future Evidence Dissemination Event Panelist ([“Enhancing Smallholder Productivity in Kenya: Evidence from a Randomized Controlled Trial of New Seed Varieties”](#)); Chicago Council on Global Affairs & MSU Alliance for African Partnership panel on the intersection of youth and agriculture in Africa; Feed the Future/USAID Agrilinks Webinar: [“Soil variation and why it matters”](#) ([recording](#))
- 2016 Paris School of Economics; Foundation for studies and Research on International Development (FERDI): [Learning for adopting](#); What Works Global Summit Panelist 2016; University of North Dakota; USAID Global Development Lab
- 2015 Oregon State University (Ag & Resource Economics); Université Laval (Economics); University of Wisconsin–Madison (Public Affairs); Georgetown (GHD); Ohio State University (Ag & Resource Economics); University of Copenhagen (Ag & Resource Economics); University of San Francisco; DIME Impact Evaluation Workshop; University of Minnesota (Ag & Resource Economics); University of Illinois Urbana-Champaign (Ag & Resource Economics)
- 2014 iHub Nairobi; Colby College; Bowdoin College; BASIS/I4 Meeting

## INVITED CONFERENCES & WORKSHOPS

+ indicates upcoming

- 2025 AAEA Invited Paper Session, Allied Social Science Association Annual (ASSA) Meetings<sup>+</sup>
- 2024 Australasian Workshop on Econometrics and Health (invited discussant); Africa Meeting of the Econometric Society; CDES Sustainable Development Conference; Advances in Field Experiments<sup>+</sup>
- 2023 Western Economic Association, International Meetings; CDES Sustainable Development Conference
- 2021 American Economic Association Annual Meetings; 42nd Australian Health Economics Society Online Conference; Essen Economics of Mental Health Workshop;
- 2020 Oz Virtual Econ Research Seminar (OVERS); Australia New Zealand Workshop in Experimental Economics (ANZWEE)
- 2019 MIT Conference on Online Experiments (MIT CODE); Midwest International Economic Development Conference (MIEDC); NBER Transforming Rural Africa Conference
- 2018 Midwest International Economic Development Conference (MIEDC); Northeast Universities Development Consortium (NEUDC); ICABR; Annual Bank Conference on Africa; Nordic Conference on Behavioral and Experimental Economics; Advances in Field Experiments; Agricultural & Applied Economics Association (AAEA) Annual Meeting; Northeast Universities Development Consortium; (Hawaii Applied Microeconomics One-Day Conference) HAMOC
- 2017 PacDev; Midwest International Economic Development Conference (MIEDC); The International Consortium on Applied Bioeconomy Research (ICABR); Working Group on African Political Economy (WGAPE) Annual Meeting, Agricultural & Applied Economics Association (AAEA) Annual Meeting, SIFE (University of Chicago Summer Institute on Field Experiments); MGAPE @ Northwestern (Midwest Group in African Political Economy); Economic Development and Institutions (EDI) Annual Conference
- 2016 Global Center for Food Systems Innovation Grantee Workshop; CSAE; Midwest International Economic Development Conference (MIEDC); Agricultural & Applied Economics Association (AAEA) Annual Meeting; Nordic Conference on Behavioral and Experimental Economics
- 2015 CSAE; UC Berkeley Development lunch; Midwest International Economic Development Conference (MIEDC); Agricultural & Applied Economics Association (AAEA) Annual Meeting; NEUDC
- 2013 Allied Social Science Association Annual Meetings (ASSA)
- 2012 UC Davis Development Workshop; MCC Impact Evaluation Learning Event; UC Berkeley Development Lunch; Nordic Conference in Development Economics; GARESC; NEUDC

## TEACHING & SUPERVISION

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### TEACHING

#### University of Wisconsin, Madison

Applied Microeconometrics Using Replication, PhD field course in Applied Economics

International Cost-Benefit Analysis, Masters of Public Affairs Program (2015, 2016, 2017, 2018, 2019)

Economic and Agricultural Development of Africa, Undergraduate

International Policy Analysis, Masters of Public Affairs Program (2016) (2017, 2018) (2018, 2019)

## University of Sydney

Economics Research Project: Masters Capstone Project (2020, 2021)

Interdisciplinary Impact in Economics: Interdisciplinary unit, applying economics to policy (2020, 2021)

## SUPERVISION

### POSTGRADUATE STUDENTS

Rachel Frattarola, PhD AAE (2018) Dissertation committee member

Justin Delorit, PhD Civil & Environmental Engineering (2018) Dissertation committee member

Norihiko Matsuda, PhD AAE (2018) Dissertation committee member

Jessica Zhu, PhD AAE (2019) Dissertation committee member

Jens Engelmann, PhD AAE (2019) Dissertation committee member

Naoki Nishimura, PhD AAE, Dissertation committee member

Evan Morier, PhD Political Science, Dissertation committee member

Joshua Deutschmann, PhD AAE (2021) Dissertation committee member

Eduardo Cenci, PhD AAE (2021) Dissertation committee member

*University of Sydney Masters student supervision*

- Aladdin Ko (2020-2021)

- Jerome Sidney Campos (2020-2021)

*UW-Madison: Masters-level independent study supervision*

- 2019 (2 students)

- 2018 (2 students)

- 2017 (3 students)

### UNDERGRADUATE

*University of Sydney: Honours thesis supervision*

- Arin Torny-aydin (co-supervised with Marian Vidal-Fernandez)

*UW-Madison: Undergraduate level independent study supervision*

- 2019 (2 students)

- 2018 (1 students)

- 2017 (2 students)

## PROFESSIONAL SERVICE

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### SERVICE TO THE PROFESSION

2023– Founding member, Australasian Development Economics Association (ADEA)

2022 Scientific committee & Organizer, Monash Environmental Economics Workshop (MEEW)

2022 Scientific committee & Organizing Committee, Australasian Development Economics Workshop (ADEW)



2020-2021 Topic Leader for Selected Papers in International Development, AAEA Annual Meeting  
2019-2020 Master's Thesis Award Committee, Agricultural & Applied Economics Association  
2018-2019 Abstract reviewer: Development, Agricultural & Applied Economics Association Annual Meeting  
2016-2019 Scientific committee, Midwest International Economic Development Conference  
2017-2018 Abstract reviewer: Behavioral, Agricultural & Applied Economics Association Annual Meeting  
2016 Abstract reviewer: Annual World Bank Conference on Land and Poverty

## REFEREEING

### *Journals:*

Agricultural Economics, American Journal of Agricultural Economics, China Economic Review, Ecological Economics, Economic Journal, European Journal of Political Economy, Food Policy, Journal of Agricultural Economics, Journal of Consumer Affairs, Journal of Development Economics, Journal of Development Studies, Journal of Economic Behavior and Organization, PNAS, Review of Economics and Statistics, Review of Economic Studies, Quarterly Journal of Economics

### *Grants:*

3ie, Agricultural Insurance Thematic Window (2016 & 2017); 3ie, Agricultural Innovation Thematic Window; CGIAR Standing Panel on Impact Assessment (SPIA); King Climate Action Initiative; Feed the Future Innovation Lab for Markets, Risk & Resilience (MRR)