

ELINOR BENAMI

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APPOINTMENTS

Assistant Professor, Virginia Tech <i>Agricultural and Applied Economics Department</i>	<i>Aug. 2020 - present</i>
Faculty Affiliate <i>Stanford Regulation, Evaluation, and Governance Lab</i>	<i>Summer 2020 - present</i>
Faculty Affiliate <i>VT Remote Sensing & Global Change Center Interdisciplinary Graduate Education Programs; Center for Advanced Innovation in Agriculture</i>	<i>Spring 2021 - present</i>
Impact Area Co-Lead for Insurance & Climate Finance <i>NASA Harvest (NASA Global Food Security and Agriculture Consortium)</i>	<i>Fall 2022 - present</i>

EDUCATION & TRAINING

Postdoctoral Scholar, University of California Davis <i>Agricultural and Resource Economics and Innovation Lab for Markets, Risk, and Resilience</i> Mentor: Michael Carter	<i>Nov. 2018 - Aug. 2020</i>
Ph.D., Stanford University <i>Emmett Interdisciplinary Program in Environment & Resources</i> Co-Advisors: Marshall Burke and Eric Lambin Fields: Production Economics and Land System Science	<i>Aug. 2013 - Oct. 2018</i>
B.A., The University of North Carolina at Chapel Hill <i>Economics, minor Environmental Studies & Sciences</i> Honors and Distinction, Phi Beta Kappa	<i>Aug. 2006 - May 2010</i>

PUBLICATIONS & PRESENTATIONS

Academic Manuscripts

Benami, E., Bovay, J., Zhang, W., Ta, C.. (*in prep*). “How and Where Do Financial Incentives Promote Adoption of Climate Smart Agricultural Practices? A \$54 million experiment among US Producers.” [*Preanalysis Plan in prep for submission to the AEA RCT Registry*]

Benami, E., Becker-Reshef, I., Kirchner, E., Cecil, M.J., Chautems, M. (*in prep for Nature Communications*). “Opportunities for EO to help derisk the transition to sustainable agricultural systems.”

Saunders, A., Tellman, B., **Benami, E.**, Anchukaitis, K., Bennett, A., Hossain, S., Islam, A.K.M. Saiful, Giezendanner, J. (*Revise and Resubmit, Earth’s Future*). “Sensitivity to Data Choice Across Scales for Index-Based Flood Insurance.”

Benami, E., Bell, A., Messer, K., Cecil, M., Zhang, W. 2025 *Agricultural Economics*. “Seeding Change to Manage Climate Change: Growing Insights from Four USDA Programs to Support Climate-Smart Agriculture.”

Benami, E., Ramanujan, R., Cecil, M. (*Accepted, Agricultural and Resource Economics Review*). “Rain Check: Examining How Fine-Scale Precipitation Data Affects Payouts in a U.S. Weather Index Insurance Program.”

Benami, E., Kirchner, E., Hobbs, A.W., Carter M.R., Zhenong J., (*Revise and Resubmit, Journal of Development Economics*) “Get in the Zone: The Risk-Adjusted Welfare Effects of Using Machine Learning vs. Administrative Borders to Define Agricultural Index Insurance Zones.”

Benami, E., Jo, N. Ragnauth, B., Ho, D.E. (*conditionally accepted, Journal of the Association of Environmental and Resource Economists*) “Drop a Line, Submit on Time? Evidence from a Randomized Control Trial on the Effect of Pre-Deadline Reminders on Pollution Discharge Reporting.”

Lin, C., Zhou, J., Yin, L., Bouabid, R., Mulla, D. **Benami, E.**, Jin, Z. 2024. “Sub-national scale mapping of individual olive trees integrating Earth observation and deep learning”. *ISPRS Journal of Photogrammetry and Remote Sensing*.

Fisher, C., **Benami, E.**, Dolk, E., Baldwin, J., Becker-Reshef, I., Cuppari, R.I., Dalhaus, T., Hobbs, A., Leckebusch, G., Lacovara, P., Sobel, A.H., and Tellman, B. 2024. “Bridging Science and Practice to En(in)sure Resilience in a Changing Climate.” *Journal of Catastrophe Risk and Resilience*

Benami, E., Carter, M. R. 2021. *Applied Economic Perspectives and Policy*. “Can Digital Technologies Reshape Rural Finance? Implications for Credit, Insurance, and Saving”

Benami, E.*, Zhenong J.*, Carter M.R., Kenduywo, B., Ghosh A., Hobbs, A.W., Hijmans R., and Lobell, D. 2021. *Nature Reviews Earth & Environment* “Uniting Advances in Remote Sensing, Crop Modeling, & Economics for Agricultural Risk Management.” *Joint first authors.

Benami, E., Whitaker, R., Anderson, B., Ho D.E., La, V., Lin, H. 2021. *Peer-reviewed proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FAccT)*. “The Distributive Effects of Risk Prediction in Environmental Compliance: Algorithmic Design, Environmental Justice, and Public Policy.”

Hino, M.*, **Benami, E.***, Brooks, N. 2018. “Machine learning for environmental monitoring.” *Nature Sustainability*. *Joint first authors

Benami, E., Curran, L.M., Cochrane, M., Venturieri, A., Swartos, A., Moraes Franco R., Kneipp, J.. March 2018. “Oil palm land conversion in Pará, Brazil, 2006-2014: Evaluating the 2010 Brazilian Sustainable Palm Oil Production Program.” *Environmental Research Letters*. 13(3): 1-12

Carley, S., Lawrence, S., Brown, A. Nourafshan, A., **Benami, E.** 2010 August. “Energy-Based Economic Development.” *Renewable and Sustainable Energy Reviews* 15(1): 282-295.

Reports & Other Publications

Rodolfa, K., Ho, D.E., Honigsberg, C., Benami E. (2023). Public Comment on U.S. EPA’s Draft National Enforcement and Compliance Initiatives for Fiscal Years 2024–2027.

Benami, E., Ho, D.E., McDonough, A. (2020). *Stanford Institute for Economic Policy Research: Policy Brief*. Innovations for environmental compliance: emerging evidence and opportunities.

J. Zuckerman, J. Deason, E. Benami. (2013). “Targeting Proposition 39 to Help California’s Schools Save Energy and Money” Climate Policy Initiative report

B. Pierpont, U. Varadarajan, A. Hobbs, E. Benami. (2013). “Improving Solar Policy: Lessons from the solar leasing boom in California” Climate Policy Initiative report

Selected Invited Presentations

2025: VT Global Change Center Spring Forward, University of Michigan, University of Tennessee-Knoxville Baker Policy Center, James Madison University Economics Seminar Series

2024: International Conference of Agricultural Economists (New Delhi, Keynote), Northeastern Agricultural and Resource Economics Association (Workshop Keynote, Measuring and Enhancing Resilience of United States Rural Communities in the Context of Climate Variability), Kansas State University, Virginia Cooperative Extension, University of Göttingen (Germany), University of Warwick (Data, Information, and the Environment Workshop), American Geophysical Union Fall Meeting (invited speaker)

2023: Arizona State University, University of Minnesota, Agricultural & Applied Economics Association (AAEA) Annual Meeting, Association of Environmental and Resource Economists (AERE) Annual Meeting, Southeastern Workshop on Energy & Environmental Economics and Policy (SWEEP) at Georgia Tech, Property and Environment

Research Center (PERC), Virginia Cooperative Extension, EPA's Office of Compliance National Targeting Center (EPA-State Clean Water Act Joint Community of Practice)

2022: University of Chicago Machine Learning in Economics Workshop, American Geophysical Union (AGU), Online Agricultural and Resource Economics Seminar (OARES), NC Center for Environmental and Resource Economic Policy (CEnREP), Appalachian Power, Virginia Tech CNRE Geography Colloquium, VT Ecological Forecast Project Inaugural Fest and Feast

2020: EPA E-Enterprise for the Environment National Meeting ECOS Webinar For Practitioners, Virginia Tech

2019: The Workshop in Environmental Economics and/or Data Science (TWEEDS), American Geophysical Union (AGU), University of Maryland, UC Berkeley Course on Data, Environment, and Society; California Water Data Science Symposium; UC Davis

2018: University of Leicester, UK; American Geophysical Union (AGU), Association of Tropical Biology and Conservation Annual Meeting, Brazilian Agricultural Research Corporation (EMBRAPA - *in Portuguese*), Federal University of Lavras, Minas Gerais, Brazil (*in Portuguese*)

2016: Brazilian National Institute for Space Research (INPE) in Belém do Pará (*in Portuguese*)

SELECTED GRANTS, FELLOWSHIPS, & HONORS

VT Early Career Scholarly Impact Award Nominee	2025
Insurance and Climate Finance Co-Lead for NASA Harvest, Co-PI (\$650,000 share of \$15mil grant)	2023 - 2028
VT Alliance for Climate Smart Agriculture, Co-PI (~\$550k share of \$80mil grant)	2023 - 2026
VT CALS Strategic Plan Integrated Internal Competitive Seed Grants Program, PI (\$75,000)	2023 - 2026
NASA Land-Cover and Land-Use Change Early Career Scientist Grant, Co-Lead PI (~\$212k of \$449,560)	2020 - 2023
Stanford Impact Labs Grant for Modernizing Environmental Compliance, Co-PI	2020 - 2022
PERC Lone Mountain Summer Fellow	2023
Association of Environmental and Resource Economists (AERE) Scholar	2022
Rising Environmental Leaders Program, Stanford University	2018
Preparing Future Professors Program, Stanford University & Foothill College	2018
NSF Dissertation Improvement Grant (\$15,945)	2017
E-IPER Summer Graduate Research Grant, Stanford University (total \$12,000)	2014 - 2017
McGee Levorsen Grant, Stanford School of Earth, Energy, & Environmental Sciences (\$6,000)	2014 - 2015
NSF Graduate Research Fellowship (\$96,000 + 3 years tuition)	2013 - 2017
Teresa Elms and Robert D. Lindsay IPER Fellowship (total \$64,000 + tuition)	2013 - 2014
UNC-Chapel Hill Order of the Golden Fleece	2009
Eve Marie Carson Scholar, UNC-Chapel Hill (One Year of Tuition and \$5,000 of Summer Funding Support)	2009
Morris K. and Stewart L. Udall Scholar (\$5,000)	2008

SELECTED PROFESSIONAL EXPERIENCE

Consultant , <i>Climate Policy Initiative</i>	06/2016 - 09/2016
Evaluated strategic opportunities for sustainable land use finance investments for philanthropic partners that have disbursed over \$200mil. to address social and environmental impacts of land uses.	
Analyst , <i>Climate Policy Initiative</i>	12/2010 - 07/2013
<ul style="list-style-type: none"> Conducted interviews and co-wrote report on ways that California public schools can target a newly authorized \$2.75bil. state fund for energy efficiency to save energy & money. Co-authored report on the role of the leasing model on California's solar deployment and costs. 	

- Contributed to development of organization's new tropical resource productivity program in Indonesia:
 - Wrote briefs on international tropical forest conservation programs, the eligibility of oil palm as a feedstock under the U.S. Renewable Fuel Standard, and ecosystem assessment processes.
 - Co-drafted \$2mil. grant on joint agricultural production and ecosystem protection project in Indonesia.

TEACHING

Remote Sensing in the Social Sciences Instructor of Record, Masters/PhD Graduate Course, Virginia Tech	<i>Fall 2021, 2022, 2024</i>
Climate Risk Management Instructor of Record, Upper Level Undergraduate Course, Virginia Tech	<i>Fall 2023</i>
Environmental and Sustainable Development Economics Instructor of Record, Undergraduate Course, Virginia Tech	<i>Spring 2021 & 2022</i>
The Economics of Index Insurance Co-Instructor of Short Course for Remote Sensing Specialists in Nairobi, Kenya	<i>Summer 2019</i>
Environmental Governance Teaching Assistant, Stanford University	<i>Spring 2018</i>
ECON/ESS 106/206: World Food Economy Teaching Assistant, Stanford University	<i>Spring 2016</i>
Honors Seminar on Energy in Transition: De-Carbonizing America Teaching Assistant, UNC - Chapel Hill	<i>Spring 2010</i>
NC Fellows Leadership Development Sophomore Seminar Teaching Assistant, UNC - Chapel Hill	<i>Fall 2009</i>

STUDENT AND POSTDOC ADVISING

Postdoctoral Scholar Mentor Ella Kirchner (2025-present, Virginia Tech Agricultural and Applied Economics, VT Presidential Postdoctoral Fellow) Michael J. Cecil (2024-present, at University of Maryland, Geographical Sciences/NASA Harvest)
Co-advisor, Degree and Completion Date: Anne Bell Carroll, PhD Agricultural and Applied Economics, Expected ~2029 Armine Poghosyan, PhD Agricultural and Applied Economics, 2024
Committee Member, Degree and (Expected) Completion Date: Alex Saunders, PhD Geography, Development, and Environment (University of Arizona), Expected ~2027 Nitheshnirmal Sadhasivam, PhD Geosciences, Expected ~2027 Maguette Sembene, PhD Agricultural and Applied Economics, Expected ~2027 Yuetong Zhang, PhD Agricultural and Applied Economics, Expected ~2025 Kristen Swedberg, PhD Agricultural and Applied Economics, 2024 Ram Ramanujan, MS Computer Science, 2024 Maguette Sembene, MS Agricultural and Applied Economics, 2023

SERVICE & COMMUNITY INVOLVEMENT

Journal Referee (selected): *Nature Communications; Journal of Environmental Economics and Management; Journal of Development Economics; American Journal of Agricultural Economics; Nature Communications Earth & Environment; Applied Economic Perspectives and Policy; Agricultural Economics; Global Food Security; Public Administration; NeurIPS, Land Use Policy; Climatic Change; QOpen; AGU Advances; Environmental Research Letters*

Grant Reviews: NSF; CGIAR; USAID Markets, Risk, & Resilience Innovation Lab; VT Global Change Center Graduate PhD Fellowship; VT Presidential Postdoc Fellowship

Abstract Submission Reviewer: Association of Environmental and Resource Economists (AERE), Agricultural & Applied Economics Assoc. (AAEA) & European Assoc. of Agricultural Economists (EAAE)

Co-convenor at AGU (2019-2023)

Applications of Science, Practice, and Policy to In(en)sure Sustainable Development Through Risk Transfer (2023); Transferring Risk: Bridging science, practice and policy to in(en)sure sustainable natural peril risk transfer/financing applications (2022); Bridging the Gap Between Science & Practice to Improve Understanding of Natural Peril Risk For Risk Transfer & Risk Finance (2021); Innovations in Risk Transfer Solutions using Earth Observations, Weather Data, Physical Models, and Short to Long Term Forecasts (2020); Advances in remote sensing, machine learning, and economics to improve risk management and evaluate impacts in socio-environmental systems (2019)

University Service:

Search Committees:

1. VT College of Agricultural and Life Sciences Associate Research Dean and Director of the Virginia Agricultural Experiment Station (2022-2023)
2. AAEC Research Scientists, Alliance for Climate Smart Agriculture (2024-2025)
3. AAEC/NASA Harvest Research Associate/Postdoctoral Scholar (2023-2024) – Search Chair
4. AAEC Data Science for the Public Good Research Assistant Professor (2023)
5. AAEC Computational Economics Search Committee (2021-2022)

Department Committee Service: *Diversity and Inclusion (2020-2021), Seminar Speakers (2021-2025), VT AAEC Graduate Advisory (2022-2025); Communication (2022-2024)*

LANGUAGES*

English, native; **German**, advanced (C1 - C2), scored “very good/sehr gut” on Zertifikat Deutsch für den Beruf (B2); **Brazilian Portuguese**, intermediate - advanced (B2); **Spanish & French**, basic - intermediate (A2 - B1)

**Letter scale corresponds to Common European Framework of Reference for Languages*

ADDITIONAL SKILLS

Proficient user of R, LaTeX, Google Earth Engine, GitHub, ArcGIS, Stata

Last updated: June 2025