

Nicolas Choquette-Levy

Deike 204B, University Park, PA 16802 | 609.638.2774 | nmc6187@psu.edu

Academic Positions

Penn State University (State College, PA) <i>Assistant Professor, Climate Risk and Decision-Making, Department of Geosciences</i>	January 2025 - present
Beijer Institute of Ecological Economics (Stockholm, Sweden) <i>Beijer Young Scholars Cohort Member</i>	2024-2026
Cornell University (Ithaca, NY) <i>Postdoctoral Associate, Global Development</i> Mentor: Andrew Reid Bell	July-December 2024
Boston University (Boston, MA) <i>Postdoctoral Associate, Earth & Environment</i> Mentor: Andrew Reid Bell	2023- 2024

Education

Princeton University (Princeton, NJ) Ph.D. <i>Science, Technology, and Environmental Policy</i> - Dissertation: “Navigating a Warming World: Rural-Urban Migration in the Context of Smallholder Farmer Climate Adaptation” - Committee: Michael Oppenheimer (co-advisor), Simon Levin (co-advisor), Elke Weber, Doug Massey, Dirgha Ghimire	2017 – 2022
International Institute for Applied Systems Analysis (Laxenburg, Austria) <i>Young Scientists Summer Program</i> Research Paper: “The Role of Agricultural Risk-Sharing Networks on Climate Adaptation Strategies”	2019
University of Calgary (Calgary, AB, Canada) M.Sc. <i>Chemical & Petroleum Engineering; Energy and Environmental Systems Specialization</i> Dissertation: “Should Alberta Upgrade Oil Sands Bitumen? An Integrated Life Cycle Framework to Evaluate Energy Systems Investment Tradeoffs”	2011
University of Southern California (Los Angeles, CA) B.Sc. <i>Biomedical Engineering</i> B.A. <i>International Relations</i> Honor’s Thesis: “The Basques and the PNV: The Effect of Social Disruption on Nationalist Party Strategy”	2007

Research

Journal Articles (peer-reviewed)

Choquette-Levy, N.; D. Ghimire; M. Oppenheimer; R. Ghimire; and D. CK (2025). [Retrenchment under climate-driven risks in subsistence farming communities](#), *Population and Environment*, **47**(22).

Choquette-Levy, N.*; M. Wildemeersch*; FP Santos; SA Levin; M. Oppenheimer; and E. Weber (2024). [Pro-social preferences improve climate risk management in subsistence farming communities](#), *Nature Sustainability*: 1-12.

Thalheimer, L.*; N. Choquette-Levy*; and F. Garip (2022). [Compound events from droughts and structural vulnerability on human mobility](#), *iScience*, **25**(12).

Choquette-Levy, N; M. Wildemeersch; M. Oppenheimer; and SA Levin (2021). [Risk Transfer Policies Facilitate Smallholder Farmer Climate Adaptation](#), *Nature Climate Change*, **11**: 1046-1054.

Choquette-Levy, N; M. Zhong; HM MacLean; and JA Bergerson. (2018). [COPTeM: A Model to Estimate the Factors Driving Crude Oil Pipeline Transportation Emissions](#), *Env. Sci. Technol.* **52**(1): 337-345.

Choquette-Levy, N; HM MacLean; and JA Bergerson (2013). [Should Alberta Upgrade Oil Sands Bitumen?](#), *Energy Policy*, (61) Oct. 2013: pp. 78-87.

*Indicates co-first authorship

Book Chapters

Choquette-Levy, N; and P. James (2011). “[Structural Realism and Transaction Costs in the U.S.-Canadian Partnership](#)”, Book chapter in *Forgotten Partnership Redux*, ed. by Greg Anderson and Christopher Sands, Cambria Press.

Technical Reports

World Bank (2019). Nepal Environmental Sector Diagnostic: Path to Sustainable Growth under Federalism. Country Environmental Analysis; World Bank: Washington, D.C. (Member of report team)

Honors and Awards

2022-2023	Dean’s Completion Fellowship <i>Princeton University</i>	\$19,000
2020-2022	Social Sciences and Humanities Research Council Doctoral Fellowship <i>Government of Canada</i>	\$40,000
2020-2022	High Meadows Environmental Institute Walbridge Award <i>Princeton University</i> Grant awarded for survey on Nepali farmers’ climate risk perceptions	\$10,000
2020	Mikhalevich Award <i>International Institute for Applied Systems Analysis</i> One of two awards given by IIASA for “outstanding work by participants in the institute’s Young Scientists Summer Program” among 50 participants	\$5,000
2017	“Invest in Others” Award <i>Engineers Without Borders Canada</i>	
2010-2011	Natural Sciences & Engineering Research Council Graduate Scholarship <i>Government of Canada</i>	\$17,000
2010	Best Poster Award <i>American Center for Life Cycle Assessment X Conference, Portland, OR</i>	

2010	Best Student Paper Finalist <i>U.S. Association for Energy Economics Conference, Calgary, AB</i>	
2003 – 2007	Presidential Scholarship <i>University of Southern California</i>	\$20,000

Conferences and Presentations

Conference Presentations

- 2024 **Choquette-Levy, N.;** A.R. Bell; F. Cottier; and A. de Sherbinin. Investing with Foresight: Livelihood and Migration Consequences of Climate Hazards in Senegal, American Geophysical Union Fall Meeting, December 2024, Washington, D.C.
- Choquette-Levy, N. .R. Bell; F. Cottier; and A. de Sherbinin.** Investing with Foresight: Calibrating Deeply Uncertain Parameters in an Agent-Based Model of Livelihoods in Senegal. Decision-Making under Deep Uncertainty Meeting, Nov. 2024, Denver, CO.
- Choquette-Levy, N.;** A.R. Bell; F. Cottier; and A. de Sherbinin. Investing with Foresight: A Participatory Agent-Based Model of Livelihood Aspirations and Capabilities in Senegal, International Congress on Environmental Modelling and Software, June 2024, East Lansing, MI.
- Choquette-Levy, N.** CLIMoIP: A Proposal for a Climate Migration Modelling Intercomparison Project, Climate Futures Workshop, Princeton, NJ, May 2024.
- Choquette-Levy, N.;** A.R. Bell; F. Cottier, and A. de Sherbinin. Modelling Climatic Effects on Migration and Education Decisions in Senegal, Population Association of America, April 2024, Columbus, OH (poster presentation).
- 2023 **Choquette-Levy, N.;** F. Errickson; and A. Babu Pokhrel. Accounting for climate and political uncertainties in migration agent-based models, Environment and Climate Mobilities Network Conference, July 2023, Vienna, Austria (oral presentation).
- Choquette-Levy, N.;** D. Ghimire; R. Ghimire; I. Chaudhary; D. CK; and M. Oppenheimer. How Does Climate Shape Smallholder Farmer Livelihood Risk Perceptions? Population Association of America, April 2023, New Orleans, LA (poster presentation).
- 2022 **Choquette-Levy, N.;** D. Ghimire; R. Ghimire; I. Chaudhary; D. CK; and M. Oppenheimer. How Does Heterogeneity in Social and Informational Capital Affect Nepali Farmer Climate Risk Management? Wittgenstein Centre Conference 2022 “Population and Climate Change”; Dec. 2022; Vienna.
- Choquette-Levy, N.;** F. Errickson; M. Oppenheimer; and K. Keller. Robust Climate Adaptation Policies for Subsistence Agriculture in Nepal. 2022 Annual Meeting of the Society for Decision-Making under Deep Uncertainty; Nov. 2022; Mexico City (oral presentation).
- Choquette-Levy, N.;** Ghimire, D.; Oppenheimer, M. ; Ghimire, R.; Chaudary, I; and CK, D. How Do Nepali Farmers Form Perceptions about Climate and Livelihood Risks? Climate Mobility Network Workshop, Columbia University, Sept. 2022 (oral presentation).

Myers, E.; **Choquette-Levy, N.** ; and G. Hagstrom. Investigating Sources of Social Vulnerability to COVID-19 in New York City. Population Association of America Conference on Applied Demography in Feb. 2022 (oral presentation).

- 2021 **Choquette-Levy, N.**, and M. Wildemeersch. Can Smallholder Farmer Risk-Sharing Mechanisms Co-Exist with Formal Climate Insurance? American Geophysical Union Fall Meeting, Dec. 2021, New Orleans, LA (oral presentation).

Choquette-Levy, N., and M. Wildemeersch. Can Smallholder Farmer Risk-Sharing Mechanisms Co-Exist with Formal Climate Insurance? Climate Futures Workshop, June 2021: Princeton University (oral presentation, virtual format).

Choquette-Levy, N., M. Wildemeersch, M. Oppenheimer, and S.A. Levin. The Impact of Risk Transfer Mechanisms on Smallholder Farmer Climate Adaptation and Rural-Urban Migration in Nepal. Population Association of America Annual Meeting, May 2021 (oral presentation, virtual format).

- 2020 **Choquette-Levy, N.**, M. Wildemeersch, M. Oppenheimer, and S.A. Levin. Risk Transfer Policies Facilitate Smallholder Farmer Climate Adaptation, American Geophysical Union Annual Meeting, Dec. 2020 (poster, virtual format).

Choquette-Levy, N. Risk-Transfer Mechanisms to Facilitate Smallholder Climate Adaptation, Computational Sustainability Doctoral Colloquium, Oct. 2020 (oral presentation, virtual format).

Choquette-Levy, N. The Impact of Risk-Sharing Mechanisms on Smallholder Farmer Climate Adaptation, American Mathematical Society Eastern Sectional, March 2020 (oral presentation, virtual format).

- 2019 **Choquette-Levy, N.**, M. Wildemeersch, M. Oppenheimer, and S.A. Levin. The Impact of Risk-Sharing Mechanisms on Smallholder Farmer Climate Adaptation, American Geophysical Union Annual Meeting, Dec. 2019: San Francisco, CA (poster presentation).

Choquette-Levy, N. The Impact of Social Networks and Risk-Sharing Mechanisms on Smallholder Farmer Climate Adaptation, Computational Sustainability Doctoral Colloquium, Oct. 2019: Carnegie Mellon University, Pittsburgh, PA.

- 2018 **Choquette-Levy, N.** Floating into Harm's Way? The Effects of Rural-Urban Migration on Climate Vulnerability in China, Resilience Measurement Evidence & Learning Conference, Nov. 2018: New Orleans, LA.

- 2011 **Choquette-Levy, N.**, Abella, J., and J. Bergerson. Should Alberta Upgrade Oil Sands Bitumen? International Society of Industrial Ecology, June 2011: Berkeley, CA.

- 2010 **Choquette-Levy, N.**, and J. Bergerson. Transporting Oil Sands by Pipeline: What are the Tradeoffs? American Center for Life Cycle Assessment X Conference, Nov. 2010: Portland, OR. Awarded Best Student Poster.

Holmes, G., **Choquette-Levy, N.**, Nakhasi, R., and M. Beaudin. Cost-competitive CO₂ Mitigation with Combined Heat and Power Systems in Calgary, U.S. Association for Energy Economics Conference, Oct. 2010: Calgary, AB. Dennis J. O'Brien Best Student Paper Award Finalist.

Invited Talks

2024 **Choquette-Levy, N.** Climate Management in Agriculture: Decision-Making Models to Inform Policy under Uncertainty; Invited talk to Center for Social Complexity of Climate Change; Delft University of Technology; Delft, Netherlands, May 2024.

Choquette-Levy, N. Climate Management in Agriculture: Decision-Making Models to Inform Policy under Uncertainty; Invited talk to Socially Intelligent Artificial Systems Group; University of Amsterdam, Netherlands, May 2024.

Choquette-Levy, N. Should I Stay or Should I Go? Human Migration in a Warming World, Student Sustainability Summit (online), April 2024.

Choquette-Levy, N. Development Decisions under Climate Risk: An Emerging Conservation-Urbanization-Food Security Nexus? Invited talk to High Meadows Environmental Institute, Princeton University, Princeton, NJ, March 2024.

Choquette-Levy, N. Climate Risk Policy in Agriculture: Decision-Making Models To Inform Policy under Uncertainty. Invited talk to the Penn State Science Policy Forum, State College, PA, Jan. 2024.

2023 **Choquette-Levy, N.** Integrating Empirical and Exploratory Modelling Methods for Climate Mobility Research. Invited talk to Migration and Sustainable Development Team at International Institute for Applied Systems Analysis, Vienna, Austria, July 2023.

Choquette-Levy, N.; A. Bell; F. Cottier; and A. de Sherbinin. Participatory Agent-Based Models: A Senegal Climate Adaptation Case Study. Invited talk to Agricultural Model Intercomparison Project 9 Conference, New York, NY, June 2023.

Choquette-Levy, N. Navigating a Warming World: Policy & Governance to Manage Smallholder Farmer Climate Risk. Invited talk to World Bank Climate Change Group, May 2023.

2022 **Choquette-Levy, N.** Navigating a Warmer Planet: Situating Migration in Smallholder Farmer Adaptation Portfolios. Invited talk to 2022 Workshop on Migration Modelling and Climate Change Research, Vienna University of Economics and Business; Vienna, Austria; Aug. 2022.

2022 **Choquette-Levy, N.;** M. Wildemeersch, and J. Linnerooth-Bayer. Policies to Facilitate Smallholder Farmer Climate Risk Management. Invited talk to 2022 participants of IIASA Young Summer Scientists Program; Laxenburg, Austria; Aug. 2022.

2021 **Choquette-Levy, N.,** M. Wildemeersch, M. Oppenheimer, and S.A. Levin. Risk Transfer Mechanisms to Facilitate Smallholder Farmer Climate Adaptation. Invited seminar hosted by Politecnico di Milano (virtual format), Feb. 2021.

Seminars Organized

- 2024 *Co-Organizer, Climate Migration Modelling Intercomparison Workshop.* Convened 35 academic and policy professionals for a 3-day workshop to develop a framework for standardized comparison of different modelling approaches to the climate-migration relationship.
- 2022 *Organizer, Princeton Environmental Justice & Community Research Reading Group.* Organizer of monthly reading group consisting of 15 graduate students and research staff to discuss examples of incorporating EJ perspectives in environmental research.
- 2022 *Co-Organizer, Climate Mobility Research Symposium,* Climate Mobility Network, New York, NY, Sept. 2022. Co-organized a workshop of 20 speakers on qualitative and quantitative methods for assessing climate impacts on human migration.
- 2021 *Lead Organizer, Incorporating Environmental Justice Perspectives in our Research Workshop,* Center for Policy Research on Energy & Environment, Princeton University, April 2021 (virtual format). Workshop with 50 PhD, post-doc, and faculty researchers from 7 universities. Lead team of 8 PhD students and post-docs who organized workshop format, invited speakers, coordinated with other university participants, and drafted workshop report.
- 2018- *Lead Organizer, CEREAL Seminar Series,* Princeton Environmental Institute, Princeton
2019 University. Interdisciplinary weekly seminar series of 25 participants, featuring internal and external speakers on energy, environment, and climate-related research. Responsibilities included inviting guest speakers and growing membership of seminar group.

Teaching and Mentorship Experience

Princeton University

- Co-Instructor, Jewish Ethics in the Age of Climate Change (Undergraduate and Graduate)* Spring 2022
- Developed and co-taught a new six-week seminar at the Center for Jewish Life on Jewish texts and their relevance for ethical dilemmas posed by climate change

- Mentor for Undergraduate Research Projects* Summer 2021
- Karena Yan, “Modelling Farmer Decision-Making Frameworks”, Princeton High Meadows Environmental Institute Research Internship
 - Nicholas Gomes, “Climate Effects on Nepal’s Agriculture and Migration”, NSF Research Experiences for Undergraduates

- Teaching Assistant, Modeling the Earth System (ENV 367; Undergraduate)* Fall 2020
- Advised student groups (25 students) on class projects that adapted a Python-based Earth systems model to assess efficacy of climate mitigation strategies

- Teaching Assistant, Rapid Switch – The Energy Transition (ENE 372; Undergraduate)* Spring 2020
- Developed and taught precepts on energy systems analysis, systems dynamics (VenSim software), stakeholder analysis, scenario analysis, and cash flow analysis

- Lead Instructor, Energy and Climate Scholars (Princeton Day School; 10-12 grade)* 2019 - 2021
- From 2020-2021, Organized cohort of 20 graduate students in teaching monthly sessions on climate change, energy, and environmental issues to 25 local high school students
 - From 2019-2021, taught five sessions and developed role-playing exercises on climate impacts and policy

University of Calgary

Teaching Assistant, Life Cycle Assessment for Professionals (Industry professionals) Summer 2011

- Advised energy industry professionals on incorporating LCA methods into company-specific projects (12 students)

Teaching Assistant, Life Cycle Assessment (ENEE 503; Undergraduate) Spring 2011

- Prepared tutorials on SimaPro LCA software and graded exams and students' final projects (35 students)

Sustainability Professional Experience

World Bank Washington, D.C.
Environment and Natural Resources Intern June 2018 – Aug. 2018

- Wrote two working papers on natural capital valuation of water and forestry resources in Nepal, which were incorporated in published Nepal Environmental Sector Diagnostic report

University of Calgary Calgary, AB
Research Associate Oct. 2016 – April 2017

- As part of three-person team, developed technology assessment methods to evaluate emerging low-carbon technologies as part of \$75 million Canada First Research Excellence Fund
- Developed generalizable life cycle model to evaluate carbon capture and utilization technologies

ConocoPhillips Canada Calgary, AB
Sustainable Development Performance Coordinator March 2013 – Sept. 2016

- Led sustainability risk assessment process for company with over 30 subject matter experts
- Led a cross-company project involving 40 subject matter experts to identify and document key performance indicators for measuring sustainability performance

Oil Sands Leadership Initiative Calgary, AB
Project Coordinator Jan. 2012 – March 2013

- Drafted report on commercializing synthetic biology research for oil sands applications
- Coordinated year-end financial and qualitative reporting for 2011 OSLI projects (\$30MM budget)

Consulate General of Canada San Francisco, CA
Public Affairs Intern Oct. 2008 – March 2009

- Wrote research reports on California Low Carbon Fuels Standard and its impact on Canadian energy sector
- Identified and secured meetings with local energy experts for Canadian ministerial visits

Service

Professional Service

2025 Session chair, "Climate and Demographic Futures", Population Association of America Conference
Manuscript reviewer, *Frontiers in Climate*

2024 Manuscript reviewer, *Population and Environment*

2023 Manuscript reviewer, *Environmental Modelling & Software*

2022 Manuscript reviewer, *Journal of Rural Studies*

2021 Manuscript reviewer, *Current Research in Environmental Sustainability*

University Service

2023-2024 **Member, BU Earth and Environment Diversity, Equity, and Inclusion Committee**

- Organize bi-weekly DEI committee meetings

- 2022 *Co-Founder, Princeton Environmental Justice Reading Group*
- Organized a monthly reading group on environmental justice research, convening 20 graduate students from 6 departments
- 2020-2022 *Board Member, Princeton Center for Jewish Life*
- One of two graduate student board members to advise programming decisions
- 2018-2022 *Steering Committee Member, Princeton MAVRIC*
- Facilitate meetings and bi-weekly discussion group for Men's Allied Voices for Respectful and Inclusive Communities, an organization with the SHARE Office with the goal of promoting gender equity and healthy masculinity on campus
- 2020-2021 *Graduate Student Mentor, Princeton Climate Action Plan Team*
- Coordinate weekly meetings and advise team of 20 Princeton undergraduate students conducting environmental and economic analyses for Princeton's Climate Action Plan
- 2020 *Team Lead, Levin Lab Diversity Committee*
- Led committee of 9 graduate students and postdocs that provided recommendations to Ecology and Evolutionary Biology department in hiring faculty from underrepresented backgrounds
- 2019 *Graduate Student Mentor, Princeton Environmental Ideathon*
- Presented three workshops on life cycle assessment for undergraduate "hackathon" on policies to address environmental issues
- 2018 *PhD Representative, Princeton Public Policy School Action Committee*
- Represented PhD students in Princeton's Public Policy graduate student committee

Community Engagement

- 2020 *Member, New Jersey Student Climate Advocates*
- Developed and advocated for a carbon-price policy in New Jersey as part of a team of 50+ high school, undergraduate, and graduate students
- 2016-2017 *President, Engineers Without Borders Calgary*
- Led a 40-member chapter of volunteers with four active campaigns on global and local inequality issues, including Fair Trade town certification, setting a local Sustainable Development Goal (SDG) agenda, and foreign aid advocacy
- 2016-2017 *Volunteer, Calgary Catholic Immigration Services*
- Met with Syrian refugee family 1-2 times per month to assist with integration to Canadian society
- 2015 *Judge, University of Calgary Energy Bowl*
- Provided feedback and questions for five student-led case studies as one of 12 industry judges in the 2015 Energy Bowl

Language and Technical Skills

Language skills: French (fluent); Spanish (advanced); Mandarin (intermediate); Portuguese (intermediate); Hebrew (beginner), Hindi (beginner)

Computer skills: Python 3.0 (proficient); Matlab (proficient); STATA data analysis software (intermediate); ArcGIS (intermediate); NetLogo (intermediate); VenSim (intermediate); SimaPro LCA software (intermediate); R (intermediate)

Research methods: Agent-based modelling, game theory; econometric analysis; household surveys; robust decision-making; life cycle analysis

Professional Memberships

American Geophysical Union

Population Association of America

Society for Decision-Making under Deep Uncertainty

References

Michael Oppenheimer, Ph.D.

Albert G. Milbank Professor of Geosciences and International Affairs

Princeton University

omichael@princeton.edu

Simon A. Levin, Ph.D.

James S. McDonnell Distinguished University Professor in Ecology and Evolutionary Biology

Princeton University

slevin@princeton.edu

Andrew Reid Bell, PhD

Associate Professor, Boston University

Incoming Associate Professor in Department of Sociology, Cornell University, starting Fall 2024

bellar@bu.edu

Elke U. Weber, Ph.D.

Gerhard R. Andlinger Professor in Energy and the Environment

Professor of Psychology and Public Affairs, Princeton University

eweber@princeton.edu

Douglas S. Massey, Ph.D.

Henry G. Bryant Professor of Sociology and Public Affairs, Emeritus, Princeton University

dmassey@princeton.edu

Dirgha Ghimire, Ph.D.

Research Professor, Population Studies Center, University of Michigan

Executive Director, Institute for Social and Environmental Research - Nepal

nepdijg@umich.edu

Matthias Wildemeersch, Ph.D.

Senior Research Associate, Environmental Change Institute, University of Oxford

Research Scholar, Exploratory Modelling of Human-Natural Systems Research, Advanced Systems Analysis

International Institute for Applied Systems Analysis

wildemee@iiasa.ac.at

Rabbi Ira Dounn

Associate Director, Center for Jewish Life, Princeton University
idounn@princeton.edu

Joule A. Bergerson, Ph.D.

Associate Professor, Department of Chemical and Petroleum Engineering
Canada Research Chair in Energy Technology Assessment
University of Calgary
jbergers@ucalgary.ca