

Francis Dennig

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Current position

2021 *Economist* — World Bank Group, Washington, D.C.
since 2015 *Assistant Professor* (on leave) — Yale-NUS College, Singapore

Research interests

Environmental economics; economics of climate change; economics of inequality; economics of education and intergenerational mobility

Past positions

2018-2019 *NUS Fellow at the Center for Advanced Study in the Behavioral Sciences*, Stanford University
2013-2015 *Values and Public Policy Associate*, Princeton School of Public and International Affairs
2012 *Dissertation fellow* Inter-American Development Bank, Washington, D.C.
2012 *Visiting researcher*, Institute for Global Change Studies, TsingHua University, Beijing
2012 *Delegate for Paraguay*, COP18, Doha

Education

2009-2013 D.PHIL in economics, *On the welfare economics of climate change*, University of Oxford
2007-2009 M.PHIL in economics (with distinction), University of Oxford
2004-2007 B.Sc in mathematics, ETH Zürich

Grants, & awards

2019-2022 NUS Grant on climate change and health impact modelling
2009-2012 Doctoral fellowship, Economics and Social Research Council (ESRC), UK
2009 Doctoral studentship scheme, Economics Department, University of Oxford

Research

JOURNAL ARTICLES

- 2021 Mark B Budolfson, David Anthoff, Francis Dennig, Frank Errickson, Kevin Kuruc, Dean Spears, and Navroz K Dubash, "Utilitarian benchmarks for emissions and pledges promote equity, climate and development," *Nature Climate Change*, 2021, <https://doi.org/10.1038/s41558-021-01130-6>
- Noah Scovronick, David Anthoff, Francis Dennig, Frank Errickson, Maddalena Ferranna, Wei Peng, Dean Spears, Fabian Wagner, and Mark Budolfson, "The importance of health co-benefits under different climate policy cooperation frameworks," *Environmental Research Letters* 16, no. 5 (2021): 055027, ISSN: 1748-9326, <https://doi.org/10.1088/1748-9326/abf2e7>
- 2020 Noah Scovronick, Maddalena Ferranna, Francis Dennig, and Mark Budolfson, "Valuing Health Impacts In Climate Policy: Ethical Issues And Economic Challenges," *Health Affairs* 39, no. 12 (2020): 2105–2112, ISSN: 0278-2715, <https://doi.org/10.1377/hlthaff.2020.01117>
- Moritz U G Kraemer, David M Pigott, Sarah C Hill, Samantha Vanderslott, Robert C Reiner, Stephanie Stasse, John S Brownstein, Bernardo Gutierrez, Francis Dennig, Simon I Hay, G R William Wint, Oliver G Pybus, Marcia C Castro, Patrick Vinck, Phuong N Pham, Eric J Nilles, and Simon Cauchemez, "Dynamics of conflict during the Ebola outbreak in the Democratic Republic of the Congo 2018–2019," *BMC Medicine* 18, no. 1 (2020): 113, ISSN: 1741-7015, <https://doi.org/10.1186/s12916-020-01574-1>
- Mark Budolfson and Francis Dennig, "Optimal global climate policy and regional carbon prices," in *Handbook on the Economics of Climate Change*, ed. Graciela Chichilnisky and Armon Rezai (Edward Elgar Publishing, 2020), ISBN: 978 0 85793 905 0, <https://doi.org/10.4337/9780857939067.00017>
- Kian Mintz-Woo, Francis Dennig, Hongxun Liu, and Thomas Schinko, "Carbon pricing and COVID-19," *Climate Policy*, 2020, <https://doi.org/10.1080/14693062.2020.1831432>
- 2019 Noah Scovronick, Valeri N Vasquez, Frank Errickson, Francis Dennig, Antonio Gasparini, Shakoor Hajat, Dean Spears, and Mark B Budolfson, "Human health and the social cost of carbon: a primer and call to action," *Epidemiology* 30, no. 5 (2019): 642–647, <https://doi.org/10.1097/EDE.0000000000001057>
- Noah Scovronick, Mark B Budolfson, Francis Dennig, Frank Errickson, Marc Fleurbaey, Wei Peng, Robert H Socolow, Dean Spears, and Fabian Wagner, "The impact of human health co-benefits on evaluations of global climate policy," *Nature communications* 10, no. 1 (2019): 2095, <https://doi.org/10.1038/s41467-019-09499-x>
- 2018 Mark Budolfson, Francis Dennig, Marc Fleurbaey, Noah Scovronick, Asher Siebert, Dean Spears, and Fabian Wagner, "Optimal climate policy and the future of world economic de-

velopment,” *The World Bank Economic Review* 33, no. 1 (2019): 21–40, <https://doi.org/10.1093/wber/lhx016>

Marc Fleurbaey, Maddalena Ferranna, Mark B Budolfson, Francis Dennig, Kian Mintz-Woo, Robert H Socolow, Dean Spears, and Stéphane Zuber, “The Social Cost of Carbon: Valuing Inequality, Risk, and Population for Climate Policy,” *The Monist* 102, no. 1 (2018): 84–109, <https://doi.org/10.1093/monist/ony023>

Francis Dennig, “Climate change and the re-evaluation of cost-benefit analysis,” *Climatic change* 151, no. 1 (2018): 43–54, <https://doi.org/10.1007/s10584-017-2047-4>

2017 Noah Scovronick, Mark B Budolfson, Francis Dennig, Marc Fleurbaey, Asher Siebert, Robert H Socolow, Dean Spears, and Fabian Wagner, “Impact of population growth and population ethics on climate change mitigation policy,” *Proceedings of the National Academy of Sciences* 114, no. 46 (2017): 12338–12343, <https://doi.org/10.1073/pnas.1618308114>

Mark B Budolfson, Francis Dennig, Marc Fleurbaey, Asher Siebert, and Robert H Socolow, “The comparative importance for optimal climate policy of discounting, inequalities and catastrophes,” *Climatic change* 145, nos. 3–4 (2017): 481–494, <https://doi.org/10.1007/s10584-017-2094-x>

2015 Francis Dennig, Mark B Budolfson, Marc Fleurbaey, Asher Siebert, and Robert H Socolow, “Inequality, climate impacts on the future poor, and carbon prices,” *Proceedings of the National Academy of Sciences* 112, no. 52 (2015): 15827–15832, <https://doi.org/10.1073/pnas.1513967112>.

WORKING PAPERS

“On differential fertility and the dynamics of inequality” (with Bassel Tarbush)

“Risk, inequality, and climate change” (with Joshua Bernstein, Maddalena Ferranna, and Marc Fleurbaey)

“The climate debt deal: an intergenerational bargain” (with Niko Jaakkola and David von Below)

“On differential discount rates and carbon prices” (with Johannes Emmerling and David Anthoff)

“Visions fly and actions follow: nudging for a better future” (with Valentina Bosetti, Ning Liu, Massimo Tavoni, and Elke U Weber; under review)

“Progressive revenue recycling can alleviate poverty, reduce inequality, and improve well-being while avoiding dangerous climate change” (with Mark Budolfson, Frank Errickson, Simon Feindt, Maddalena Ferranna, Marc Fleurbaey, David Klenert, Ulrike Kornek, Kevin Kuruc, Aurélie Méjean, Wei Peng, Noah Scovronick, Dean Spears, Fabian Wagner, and Stéphane Zuber; under review)

Mark B Budolfson, David Anthoff, Francis Dennig, Frank Errickson, Kevin Kuruc, Dean Spears, and Navroz K Dubash, “Utilitarian benchmarks for emissions and pledges promote

equity, climate and development,” *Nature Climate Change*, 2021, <https://doi.org/10.1038/s41558-021-01130-6>

“Cocoa pollination, biodiversity-friendly production, and the global market” (with Thomas C Wanger, Eric F Lambin, Manuel Toledo-Hernández, and Teja Tscharnke; under review)

Teaching

≥ 3×	Introduction to game theory
≥ 3×	Intermediate microeconomics
2×	Public economics
2×	Quantitative reasoning (core course on numeracy and statistics)
2×	The economics of inequality
2×	The economics of climate change
1×	Political economics

Service to the profession

PEER REVIEW

Social Choice and Welfare; *Nature Climate Change*; *The Energy Journal*; *Journal of the Association of Environmental and Resource Economists*; *Journal of Mathematical Economics*; *Environmental and Resource Economics*; *Macroeconomic Dynamics*; *Journal of Environmental Economics and Management*; *Global Environmental Change*; *Journal of Benefit-Cost Analysis*; *WIREs Climate Change*; *Journal of Public Economics*; *Nature Communications*; *Scientific Reports*; *Ecological Economics*

SUMMER SCHOOLS (AS INSTRUCTOR)

2019	International summer school in economic modelling of environment, energy and climate (CIRED Paris)
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WORKSHOP ORGANISATION

2015	Princeton workshop on public economics (Princeton University)
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Presentations

CONFERENCES AND WORKSHOPS

Climate Change in a World of Tradeoffs and Synergies: A Virtual Snowmass Climate Change Workshop (virtual, 2020); The Economics of Inequality and the Environment (Leipzig, 2020); Integrated Assessment Modeling Consortium annual meeting (Plenary speaker,

Tsukuba, 2019); Integrating impacts, mitigation, and inequality (Potsdam, 2019); Conference on sustainable resource use and economic dynamics (Ascona, 2018; 2014); Asian meeting of the Econometric Society (Hong Kong, 2017); Impacts World 2017 (Potsdam); European Association of Environmental and Resource Economists annual conference (Zurich, 2016; Toulouse, 2014); Princeton workshop on public economics (Princeton, 2015); Our common future under climate change (Paris, 2015); Princeton Institute for International and Regional Studies workshop on historicizing climate change (Princeton, 2014); Princeton-Yale workshop on politics, social choice, and public economics (New Haven, 2014)

INSTITUTIONAL SEMINARS

SWEEEP Webinar hosted by Grenoble Ecole de Management/ZEW/ETH/EIEE (online, 2020); University of Sussex Business School (online, 2020); Development Research Group - World Bank (Washington DC, 2019); Vienna institute for demography (2019); CASBS at Stanford University (Palo Alto, 2018); Johns Hopkins University (Baltimore, 2018); Research Institute for Humanity and Nature (Kyoto, 2017); Karl-Franzens Universität (Graz, 2017); ETH (Zurich, 2016); Kochi University of Technology (Kochi, 2015); Vienna University of Economics and Business (2015); Iowa State University (Ames, 2015); Hitotsubashi University (Tokyo, 2015); Princeton University (2014); Potsdam Institute for Climate Impact Research (2014); Humboldt Universität zu Berlin (2014); UC Berkeley (2014); University of Oxford (2013)

Languages

English, German, Spanish, French – Fluent
Chinese – Conversational

Matlab, R, Julia, Python

References

Doctoral
advisor Professor John Quah
Johns Hopkins University and
National University of Singapore
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Professor Valentina Bosetti
Bocconi University and
RFF-CMCC European Institute on Economics and the Environment
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Professor Ottmar Edenhofer
Technische Universität Berlin and

Potsdam Institut für Klimafolgenforschung and
Mercator Research Institute on Global Commons and Climate Change
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