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Education:

2012 – 2018 (expected) PhD, School of International and Public Affairs, Columbia University
2010 – 2013 Graduate Diploma in Economics, University of London / LSE
2006 – 2007 Cycle in International Management, Ecole des Ponts ParisTech
2005 – 2008 Diplôme d'Ingénieur, Chimie-ParisTech
Equivalent to MSc in Chemistry and Chemical Engineering

Field of Specialization: Environmental Economics

Research Interests: Technological Change, Energy, Innovation

Job Market Paper: International Environmental Agreements and Directed Technological Change: Evidence from the Ozone Regime

Can international environmental agreements induce innovation on green technologies? It is possible that international negotiations succeed only once technological solutions are available. In this case, agreements would help diffuse such technologies rather than fostering their development. I provide the first quantitative evidence that the Montreal Protocol, and its following amendments to protect the ozone layer, triggered a large increase in research and innovation on alternatives to ozone-depleting molecules. To do this, I use the full text of patents and scientific articles to construct new panel data of the yearly number of published documents about these molecules. I implement a difference-in-differences strategy (DiD) and a synthetic control method (SCM) using hazardous air pollutants as control units. To compare molecules' chemical and industrial characteristics, I construct descriptive variables by applying machine learning techniques to the documents' text. The SCM estimates that the post-Montreal regime caused a 144% increase in patents and a 189% increase in articles mentioning substitutes to ozone-depleting substances; the DiD yields comparable estimates. These results challenge the view that agreements foster technological diffusion without affecting much of the dynamics of innovation. Agreements can thus encourage the development of green technologies, which importantly suggests they should be negotiated as early as possible if we hope to solve global environmental problems.

Publications:

- Dugoua, Eugenie, Ruinan Liu, and Johannes Urpelainen. "Geographic and socio-economic barriers to rural electrification: New evidence from Indian villages." *Energy Policy* 106 (2017): 278-287.
- Dugoua, Eugenie, and Johannes Urpelainen. "Relative Deprivation and Energy Poverty: When Does Unequal Access to Electricity Cause Dissatisfaction?." *International Journal of Energy Research* 38.13 (2014): 1727-1740.

Working Papers:

- Satellite Data for the Social Sciences: Measuring Rural Electrification with Nighttime Luminosity, with Johannes Urpelainen (Columbia University) and Ryan Kennedy (University of Houston). Revise and resubmit at the *International Journal of Remote Sensing*.
- Peer Effects and Technology Diffusion: Experimental Evidence with Solar Lanterns in India,

with Yonas Alem (University of Gothenburg).

- A Theoretical Model of Technological Change in Industrial Networks and Implications for a Green Technological Transition, with Marion Dumas (Grantham Institute).

Research and Work Experience:

2015-2016 Research assistant, Suresh Naidu, Columbia University
2008-2010 Technical brand manager, Research & Development, Procter and Gamble, Belgium
2008 Jan-Jul Research project on nuclear waste management, Tsinghua University, China

Teaching Experience:

Spring 2017 Teaching assistant, Economic Development (Miguel Urquiola)
Fall 2016 Teaching assistant, Growth and Economic Development (Xavier Sala-i-Martin)
Summer 2015 Textbook companions for *The Age of Sustainable Development* (Jeffrey Sachs)
Spring 2015 Teaching assistant, Challenges of Sustainable Development (Jeffrey Sachs)
Fall 2014 Teaching assistant, State and Society (Victoria Murillo)
Spring 2014 Teaching assistant, Political Economy of Development (Chris Blattman)
Fall 2013 Teaching assistant, Energy Economics (Gernot Wagner)

Honors and Awards:

2017-2018 Dissertation Fellowship, Columbia University
2016-2017 Mellon Interdisciplinary Graduate Fellowship, Columbia University
2015 Graduate Global Policy Research fellowship, Columbia University
2012-2017 Dean's Fellowship, Columbia University

Service

2014-2015, President, Sustainable Development Doctoral Society, Columbia University
2015, Lead organizer, Interdisciplinary PhD Workshop on Sustainable Development, Columbia University
2013, Lead organizer, Science and Policy Summer School, Columbia University and Science Po Paris

References:

Scott Barrett (Primary)	Suresh Naidu	Geoffrey Heal
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Personal:

Citizenship: French
Languages: French (native), English (fluent), Spanish (intermediate), Chinese (beginner)
Solo one-year round-the-world trip in 2010-2011 (China, India, Kenya, Tanzania, South Africa, Brazil, Peru, Egypt, Thailand).
Volunteered with Attorney General in Trujillo, Peru in 2011. Worked on a national program aimed at empowering young people from poor areas.