

MARCO MIOTTI

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EDUCATION

Massachusetts Institute of Technology 2014 - present

Ph.D. in Engineering Systems

Committee: Prof. Jessika Trancik (chair), Prof. John Heywood, Prof. P. Christopher Zegras

Swiss Federal Institute of Technology (ETH) Zurich 2010 - 2013

S.M. in Environmental Engineering

Thesis: *Life cycle and cost assessment of current and future fuel cell vehicles*

Swiss Federal Institute of Technology (ETH) Zurich 2007 - 2010

B.S. in Environmental Sciences

Thesis: *Temporal turnover patterns of phytoplankton composition in Lake Zurich*

RESEARCH & PROFESSIONAL EXPERIENCE

Massachusetts Institute of Technology September 2014 - present

Research Assistant | Cambridge, MA, USA

- Evaluating the emissions and costs of personal vehicles across different vehicle technologies, driving patterns, and background conditions to inform decarbonization pathways for personal transport in the U.S.
- Designing interactive websites to inform consumers directly about vehicle costs and emissions.
- Collaborating in a large-scale research project that aims to reduce travel energy consumption through a combination of personalized travel information and system-wide optimization.

Centro Nacional de Producción Más Limpia February 2014 - June 2014

Swiss Civilian Service | Bogotá, Colombia

- Informed new regulations and educational programs to handle electronic waste in Colombia.
- Drafted concept for new database to store information on electronic waste recycling sites.

Paul Scherrer Institute November 2013 - February 2014

Research Assistant | Villigen, Switzerland

- Evaluated real-world fuel economy, emissions, and production costs of fuel cell vehicles.
- Contributed to technology assessment of deep geothermal electricity and heat co-generation.

Global Risk Forum Davos August 2013 - October 2013

Swiss Civilian Service | Davos, Switzerland

- Supported the organization of the *4th Conference on Community Resiliency* in Davos.
- Assisted in the creation of a new peer-reviewed e-journal, *Planet@Risk*.

Evonik Industries

March 2012 - September 2012

Intern | Marl, Germany & Shanghai, China

- Conducted several life cycle assessments of specialty chemical products.
- Carried out an interview-based case study on sustainability in the chemical industry in China and presented results in global headquarters in front of 100+ people.

PEER-REVIEWED ARTICLES

McNerney, Needell, Chang, **Miotti**, and Trancik. TripEnergy: Estimating personal vehicle energy consumption given limited travel survey data. *Transportation Research Record: Journal of the Transportation Research Board*, 2017.

Fletcher, **Miotti**, Swaminathan, Klemun, Strzepek, and Siddiqi. Water Supply Infrastructure Planning: Decision-Making Framework to Classify Multiple Uncertainties and Evaluate Flexible Design. *Journal of Water Resources Planning and Management*, 2017.

Miotti, Hofer, and Bauer. Integrated environmental and economic assessment of current and future fuel cell vehicles. *International Journal of Life Cycle Assessment*, 2017.

Miotti, Supran, Kim, and Trancik. Personal vehicles evaluated against climate change mitigation targets. *Environmental Science & Technology*, 2016.

MANUSCRIPTS IN PREPARATION

Miotti, Needell, and Trancik. Quantifying the impact of driving style changes on light-duty vehicle fuel consumption. *In revision*.

Miotti and Trancik. Your mileage varies, and it matters: heterogeneity in personal vehicle emissions and costs across the United States. *In final preparation*.

SOFTWARE AND TOOLS

Carboncounter.com: Cars evaluated against climate targets. 94,000 unique visitors since September 2016. Written in Javascript using D3 and AngularJS. Initiated development, lead design process, programmed and maintained website.

OTHER PUBLICATIONS

Trancik, Edwards, Kavlak, Klemun, McNerney, **Miotti**, Needell, Pereira, Supran, and Wei. "Notes on scale: Why U.S. states can make a significant contribution to the Paris Agreement." Press Release, 2017.

Trancik, Supran, and **Miotti**. "Reality is that most EVs emit less CO2 than petrol cars over their lifetimes." Letter, The Financial Times, Nov. 20 2017 (most read letter of the week).

Trancik, Brown, Jean, Kavlak, Klemun, Edwards, McNervey, **Miotti**, Mueller, and Needell. Technology improvement and emissions reductions as mutually reinforcing efforts: Observations from the global development of solar and wind energy. Technical Report, 2015

TA-Swiss Study 62/2015. Hirschberg, Wiemer, and Burgherr (eds). Energy from the Earth: Deep Geothermal as a Resource for the Future? *VDF Hochschulverlag, Zurich*, 2015.

AWARDS & HONORS

Martin Family Sustainability Fellowship	2018
Best Paper Award, Transportation Research Board Energy Subcommittee (4 th author)	2018
Editor's Choice Paper, Journal of Water Resources Planning and Management (2 nd author)	2018
Siebel Scholarship	2017
Society of Industrial Ecology Young Professionals Scholarship	2017
Willi-Studer Award (for best GPA in master's program), ETH Zurich	2013
<i>Perspectives</i> membership (offered to "the most outstanding interns"), Evonik Industries	2013
Unitech Fellowship, ETH Zurich	2012

INVITED TALKS

Evaluating technology evolution pathways against climate goals: The case of light-duty vehicles. Stanford University, Stanford CA, 2018.

Environmental footprint of electric vehicles. Inter-American Development Bank (IDB), Washington DC, USA, 2018.

Incorporating Regional Conditions and Driving Patterns into Lifecycle Emission Estimates of Personal Vehicles. LCA XVIII special session: LCA on mobility, Fort Collins CO, USA, 2018.

Data for energy: building interactive tools to inform consumer purchasing decisions. Swiss-US Energy Innovation Days, Lausanne, Switzerland, 2018.

SELECTED CONFERENCE PRESENTATIONS

Miotti, Trancik. Leveraging data to estimate localized emissions and costs of personal vehicles. Gordon Research Seminar (GRS) on Industrial Ecology, Les Diablerets, Switzerland, 2018.

Miotti, Needell, Trancik. Quantifying reductions in personal vehicle energy consumption due to driving style changes. Transportation Research Board 97th Annual Meeting, Washington DC, USA, 2018.

Miotti, Trancik. Evaluating the emissions and costs of light-duty vehicles. International Society for Industrial Ecology/International Symposium on Sustainable Systems and Technologies

(ISIE-ISSST) Joint Conference, Chicago, USA, 2017

Miotti, Supran, Kim, Trancik. Using a parameterized LCA to evaluate over 120 current passenger vehicle models against climate change mitigation targets. American Center for Life Cycle Assessment Conference (LCA XV), Vancouver, CA, 2015.

Miotti, Supran, Kim, Trancik. Evaluating the Climate Change Mitigation Potential of Personal Vehicle Technologies. International Society for Industrial Ecology (ISIE) Conference, Surrey, UK, 2015.

TEACHING EXPERIENCE

Seminar Participant

Kaufman Teaching Certificate Program (KTCP), MIT Summer 2018

Undergraduate Research Supervision

Sai Sameer Pusapaty (Undergraduate Research Project) Fall 2017

Christiane Adcock (Undergraduate Thesis in Course 2: Mechanical Engineering) Spring 2017

Guest Lecturer

Introduction to Life Cycle Assessment, MIT Fall 2017

Teaching Assistant

Mapping and Evaluating New Energy Technologies, MIT Fall 2017

LEADERSHIP ACTIVITIES

President, MIT IDSS Student Council 2018 - present

Captain, MIT IDSS Hockey Team 2017 - present

Co-Organizer, MIT Policy Hackathon: From Data to Decisions 2018

Team Lead, Impact Assessment Fellows, MIT Climate CoLab 2015 - 2017

Co-President, MIT Engineering Systems Student Society 2016 - 2017

Seminar Chair, MIT Engineering Systems Student Society 2015 - 2016

Member, Student Leadership in Sustainability at MIT Working Group 2015 - 2016

Co-President / Graphic Design Lead / Waste Management Lead, FFP Music Festival 2006 - 2012

SELECTED MEDIA COVERAGE

Quartz. "Electric cars claim to be cheaper and greener. But are they?" 2018-12-12

Manager Magazin. "Darum ist ein fetter Tesla sauberer als ein kleiner Ford." 2017-11-24

The Guardian. "New MIT app: check if your car meets climate targets." 2016-09-28

The New York Times. "An App to Help Save Emissions (and Maybe Money) When Buying a Car."	2016-09-27
NPR. "It May Not Cost You More To Drive Home In A Climate-Friendly Car."	2016-09-27
MIT News. "Study: Low-emissions vehicles are less expensive overall."	2016-09-27

PROFESSIONAL SERVICE

Manuscript reviewer

Environmental Science & Technology; Transportation Research Record; Transportation Research Part D: Transport & Environment; Journal of Industrial Ecology.

Abstract reviewer

2017 International Society For Industrial Ecology (ISIE) Conference.

PROFESSIONAL SOCIETIES

International Society for Industrial Ecology, Transportation Research Board (Affiliate Member).

SKILLS

Spoken languages

German (native), English (fluent), Spanish (conversational), French (basic), Swedish (basic).

Programming and markup languages | 10,000+ lines written

Python, Javascript, PHP, HTML/CSS.

Programming and markup languages | 1,000+ lines written

Matlab, R, SQL (mySQL), LaTeX.

Software

Adobe Photoshop/Illustrator/InDesign, version control (Git), ArcGIS, Rhino 3D.