

# MARCO MIOTTI

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## PROFESSIONAL APPOINTMENTS

**Postdoctoral Fellow** 2019 – present  
TomKat Center Postdoctoral Fellow in Sustainable Energy  
Stanford University

## EDUCATION

**Massachusetts Institute of Technology** 2014 – 2019  
Ph.D. in Engineering Systems  
Dissertation: *Evaluating the emissions reduction potential of electric vehicles*  
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*

## AWARDS & HONORS

Stanford TomKat Center for Sustainable Energy Postdoctoral Fellowship 2019  
Swiss National Science Foundation (SNSF) Early Postdoc.Mobility Fellowship 2019  
Martin Family Sustainability Fellowship 2018  
Best Paper Award, Transportation Research Board Energy Subcommittee (4<sup>th</sup> author) 2018  
Editor's Choice Paper, Journal of Water Resources Planning and Management (2<sup>nd</sup> author) 2018  
Siebel Scholarship 2017  
Society of Industrial Ecology Young Professionals Scholarship 2017  
Willi-Studer Prize (for best GPA in master's program), ETH Zurich 2013  
*Perspectives* membership (offered to "the most outstanding interns"), Evonik Industries 2013  
Unitech Fellowship, ETH Zurich 2012

## RESEARCH & PROFESSIONAL EXPERIENCE

<b>Stanford Urban Informatics Lab</b> Postdoctoral Fellow   Stanford, CA, USA	November 2019 – present
<b>MIT Trancik Lab</b> Research Assistant   Cambridge, MA, USA	September 2014 – October 2019
<b>Centro Nacional de Producción Más Limpia</b> Swiss Civilian Service   Bogotá, Colombia	February 2014 – June 2014
<b>Paul Scherrer Institute</b> Research Assistant   Villigen, Switzerland	November 2013 – February 2014
<b>Global Risk Forum Davos</b> Swiss Civilian Service   Davos, Switzerland	August 2013 – October 2013
<b>Evonik Industries</b> Intern   Marl, Germany & Shanghai, China	March 2012 – September 2012
<b>ETH Zurich Applied Entomology Group</b> Research Assistant   Zurich, Switzerland	July 2010 – July 2011

## 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. [[Link](#)].
- 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. [[Link](#)].
- Miotti**, Hofer, and Bauer. Integrated environmental and economic assessment of current and future fuel cell vehicles. *International Journal of Life Cycle Assessment*, 2017. [[Link](#)].
- Miotti**, Supran, Kim, and Trancik. Personal vehicles evaluated against climate change mitigation targets. *Environmental Science & Technology*, 2016. [[Link](#)].

## MANUSCRIPTS IN PREPARATION

- Miotti**, Needell, Heywood, Ramakrishnan, and Trancik. Quantifying the impact of driving style changes on light-duty vehicle fuel consumption. *In revision*.
- Miotti** and Trancik. Determinants of heterogeneous electric vehicle emission reductions and costs. *In preparation*.

## SOFTWARE AND TOOLS

Carboncounter.com. Responsibilities: Initiated development, designed user interface, collected data, programmed and maintained website. 100,000+ unique visitors since September 2016. *Featured in the New York Times, The Guardian, npr.org, vox.com.*

FM Sensing App. Responsibilities: Helped integrate TripEnergy (a model to estimate vehicle fuel consumption) into server-side modeling framework; developed a server-side module in Python to measure the eco-driving performance of a car driver after a given trip.

## 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. [[Link](#)].

Trancik, Supran, and **Miotti**. "Reality is that most EVs emit less CO<sub>2</sub> than petrol cars over their lifetimes." Letter, The Financial Times, Nov. 20 2017. [[Link](#)].  
*Most read letter of the week in The Financial Times online.*

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. [[Link](#)].

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. [[Link](#)].

## INVITED TALKS

2019 Hitachi-University of Tokyo Forum on Society 5.0, Tokyo, Japan.

2018 Urban Informatics Lab Seminar, Stanford University, Stanford CA  
Electromobility in Latin America and the Caribbean, IDB, Washington DC  
LCA XVIII special session: LCA on mobility, Fort Collins CO  
Swiss-US Energy Innovation Days, Lausanne, Switzerland.

## 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 – 2019

Captain, MIT IDSS Hockey Team 2017 – 2019

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

Co-President and Graphic Design Lead, FFP Music Festival, Riniken, Switzerland 2006 – 2012

## SELECTED MEDIA COVERAGE

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

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

## PROFESSIONAL SERVICE

### Manuscript reviewer

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

### Abstract reviewer

2017 International Society For Industrial Ecology (ISIE) Conference.

## PROFESSIONAL MEMBERSHIPS

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

## SKILLS

### Spoken languages

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

### Programming and markup languages | 10,000+ lines written

Python, Javascript, 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.