

MARCO MIOTTI

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EDUCATION

Massachusetts Institute of Technology 2014 – 2019

Ph.D. in Engineering Systems

Dissertation: *Variability in the emissions savings potential of battery electric vehicles across regions and individuals*

Committee: Jessika Trancik (chair, advisor), John Heywood, 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*

Advisors: Johannes Hofer, Christian Bauer, Jing Wang, Stefanie Hellweg

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

B.S. in Environmental Sciences

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

Advisors: Blake Matthews, Jukka Jokela

RESEARCH EXPERIENCE

Postdoctoral Fellow November 2019 – present

Urban Informatics Lab, Stanford University

Research Assistant September 2014 – October 2019

Trancik Lab, Massachusetts Institute of Technology

Research Assistant November 2013 – February 2014

Laboratory for Energy Systems Analysis, Paul Scherrer Institute

Research Assistant (part time) July 2010 – July 2011

Applied Entomology Group, ETH Zurich

PROFESSIONAL EXPERIENCE

Centro Nacional de Producción Más Limpia February 2014 – June 2014

Swiss Civilian Service | Bogotá, Colombia

Global Risk Forum Davos August 2013 – October 2013

Swiss Civilian Service | Davos, Switzerland

Evonik Industries March 2012 – September 2012

Intern | Marl, Germany & Shanghai, China

AWARDS & HONORS

Best Paper Award nominee, 2021 Hawaii International Conference on System Sciences	2021
Stanford TomKat Center for Sustainable Energy Postdoctoral Fellowship	2019
Swiss National Science Foundation (SNSF) Early Postdoc.Mobility Fellowship	2019
MIT 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 Prize (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

PEER-REVIEWED ARTICLES

Miotti and Jain. Modeling aggregate human mobility patterns in cities based on the spatial distribution of local infrastructure. *2021 Hawaii International Conference on System Sciences (HICSS)*. [[Link](#)].

Miotti, Ramakrishnan, and Trancik. Heterogeneity in emissions savings and costs of battery electric vehicles across regions and individuals. *In final preparation*.

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

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, Supran, Kim, and Trancik. Personal vehicles evaluated against climate change mitigation targets. *Environmental Science & Technology*, 2016. [[Link](#)].

Miotti, Hofer, and Bauer. Integrated environmental and economic assessment of current and future fuel cell vehicles. *International Journal of Life Cycle Assessment*, 2015. [[Link](#)].

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 CO₂ 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](#)].

SOFTWARE AND TOOLS

[Carboncounter.com](#) and [Carboncounter.lu](#). Responsibilities: concept, design, programming, data collection, maintenance, server setup. 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.

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

Graduate Research Supervision

Samantha Yi-Shuen Liu (Master's Research Project) Spring 2020

Ad interim supervision of 3 additional graduate students during PI's parental leave Spring 2020

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; Frontiers in Energy Research.

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.