ANIRUDDH MOHAN

Suite 211A, 86 Olden Street, Princeton University, Princeton, NJ 08540

I am interested in studying the role of emerging technologies in reducing greenhouse gas emissions at a systems-level. I do this by building mathematical models of technology deployment informed by a combination of technology specific operational attributes, rich geospatial datasets, and public policy.

EDUCATION

Carnegie Mellon University, Pittsburgh, PA, United States 2018-2022
PhD in Engineering and Public Policy
Thesis Committee: Parth Vaishnav, Venkat Viswanathan (CMU Mechanical Engineering)
Nicholas Z. Muller, Jeremy Michalek, Jessika Trancik (MIT IDSS)

University of Cambridge, Cambridge, United Kingdom 2012-2013
MPhil - Nuclear Energy

University of Manchester, Manchester, United Kingdom 2009-2012
First Class BEng. Hons. Mechanical Engineering

WORK EXPERIENCE

Princeton University, Andlinger Center on Energy and the Environment, Princeton, USA
Associate Research Scholar 2024 - Present
Using techno-economic optimization models to evaluate emerging technologies for decarbonization.

Distinguished Postdoctoral Fellow 2022-2024
Evaluating the impact of clean electricity procurement strategies for large scale carbon removal.

Wuppertal Institute for Climate, Environment & Energy, Wuppertal, Germany 2017-2018
Alexander von Humboldt Foundation International Climate Protection Fellow

Observer Research Foundation, New Delhi, India 2015-2016
Junior Fellow

Aon, London, United Kingdom 2013-2014
Data Analyst
Helped senior consultants in the team with data analytics.

SELECTED HONORS AND AWARDS

- **Princeton University Distinguished Postdoctoral Fellowship** (< top 1% of applicants) 2022
- **Carnegie Mellon University Presidential Fellowship** (< top 5% of applicants) 2020
- **Herbert L. Toor Award for Best Paper –** Department of Engineering and Public Policy 2020
  PhD Qualifying Exams, Carnegie Mellon University (< top 5% of students)
- **Second Prize** – Columbia University International Energy Case Competition 2019
  (<top 5% of participants)
- **Alexander von Humboldt Foundation International Climate Protection Fellowship** 2017
  (<top 1% of applicants)
- **British Petroleum Scholarship for Outstanding Students**- University of Manchester 2011
  (<top 5% of students)

ACADEMIC JOURNAL PUBLICATIONS

Mohan, A., Cheng, F., Luo, H., Greig, C., Larson, E., Jenkins, J. (2024). **Direct Air Capture Integration with Low-Carbon Heat: Process Engineering and Power System Analysis (**In Press) *Energy Conversion and Management*

Cobb, A., **Mohan, A.**, Corey, H., Nock, D., Michalek, J. (2024). **Ride-hailing technology mitigates effects of driver racial discrimination, but effects of residential segregation persist.** *Proceedings of the National Academy of Sciences of the United States of America*

Vaishnav, P., Tian, Y., Isaac, C., & **Mohan, A.** (2024). **Automation and electrification in long-haul trucking cuts urban health and environmental damages.** *Transportation Research Part D: Transport and Environment*

Schenuit, F., Brutschin, E., Geden, O., Guo, F., **Mohan, A**., Oliveira Fiorini, A.C., Saluja, S., Schaeffer, R. and Riahi, K. (2024). **Taking stock of carbon dioxide removal policy in emerging economies: developments in Brazil, China, and India.** *Climate Policy***.**

Mohan, A., Muller, N.Z.., Thyagarajan, A., & Martin, R.V., Hammer, M.S., Donkelaar, A.V. (2024). **Measuring global monetary damages from particulate matter and carbon dioxide emissions to track sustainable growth.** *Communications Earth & Environment***.**

Mohan, A., Bruchon, M., Michalek, J., & Vaishnav, P. (2023). **Life Cycle Air Pollution, Greenhouse Gas, and Traffic Externality Benefits and Costs of Electrifying Uber and Lyft.** *Environmental Science & Technology*.

Mohan, A., Sengupta, S., Vaishnav, P., Tongia, R., Ahmed, A., Azevedo, I.L. (2022). **Sustained cost declines in solar PV and battery storage needed to eliminate coal generation in India.** *Environmental Research Letters,* 17(11), 114043

Mohan, A., & Vaishnav, P. (2022). **Impact of automation on long haul trucking operator-hours in the United States.** *Humanities and Social Sciences Communications*, *9*(1), 1-10.

Mohan, A., Geden, O., Fridahl, M., Buck, H. J., & Peters, G. P. (2021). **UNFCCC must confront the political economy of net-negative emissions**. *One Earth*, 4(10), 1348-1351.

Mohan, A., Sripad, S., Vaishnav, P., & Viswanathan, V. (2020). **Trade-offs between automation and light vehicle electrification**. *Nature Energy*, 5(7), 543-549.

Mohan, A., & Wehnert, T. (2019). **Is India pulling its weight? India's nationally determined contribution and future energy plans in global climate policy.** *Climate policy*, *19*(3), 275-282.

Mohan, A.,& Topp, K. (2018). **India's energy future: Contested narratives of change.** *Energy research & social science*, 44, 75-82.

Mohan, A. (2017). **From Rio to Paris: India in Global Climate Politics**. *Rising Powers Quarterly*, 2(3), 39-61

Mohan, A. (2017). **Whose land is it anyway? Energy futures & land use in India**. *Energy Policy*, 110, 257-262.

Mathur, V., & **Mohan, A.** (2016). **Plus ça change, plus c'est la même chose: Adaptation in the Paris Agreement**. *India Quarterly*, 72(4), 330-342.

WORKING PAPERS / PREPRINTS

System-level impacts of combining enhanced geothermal energy with direct air capture
In preparation (2024)
Aniruddh Mohan, Wilson Ricks, Hongxi Luo, Cecilia Isaac, Jonathan Ogland-Hand, Eric Larson, Jesse Jenkins

Combining direct air capture with high temperature thermal energy storage
In preparation (2024)
Aniruddh Mohan, Vinay Konuru, Hongxi Luo, Jesse Jenkins

INVITED TALKS & CONFERENCE PRESENTATIONS

"System Levels Impacts of Direct Air Capture Procurement" *Workshop on Energy Accounting in Carbon Removal*, San Francisco, CA (October 2024)

"Direct Air Capture Integration with Low Carbon Heat – Process Engineering and Energy System Impacts" *Macro Energy Systems Workshop*, Princeton, NJ (June 2024)

"Evaluating the system-level impacts of emerging technologies for deep decarbonization" *Indiana University, O'Neill School of Public & Environmental Affairs*, Bloomington, IN (December 2023)

"Direct Air Capture Integration with Low-Carbon Heat: Process Engineering and Power System Analysis", *Andlinger Center Annual Meeting*, Princeton, NJ [Poster session] (October 2023)

"Life cycle air pollution, greenhouse gas, and traffic externality benefits and costs of electrifying Uber and Lyft" *INFORMS, Phoenix, AZ* (October 2023)

"Direct Air Capture Integration with Low-Carbon Heat: Process Engineering and Power System Analysis" INFORMS, Phoenix, AZ [Poster session] (October 2023)

"Evaluating the system level impacts of direct air capture deployment" *Distinguished Postdoc Seminar*, Andlinger Center for Energy and the Environment, Princeton, NJ (July 2023)

"Life cycle air pollution, greenhouse gas, and traffic externality benefits and costs of electrifying Uber and Lyft" *University of Maryland Transportation Institute Distinguished Seminar Series, Remote* (April 2023)

"Life cycle air pollution, greenhouse gas, and traffic externality benefits and costs of electrifying Uber and Lyft" *Transportation Research Board 102nd Annual Meeting, Washington D.C.* (January 2023)

"*Damages from fine particulate matter and carbon dioxide between 1998-2018" Princeton University, Conversations on the Environment, Responsible Energy, And Life (CEREAL), Princeton* (October 2022)

"Agent based modelling of ridesourcing operations" *Chalmers University, Department of Space, Earth and Environment, Remote* (March 2022)

"Global Environmental Pollution: costs and opportunities." *Pacific Northwest National Laboratory, Joint Global Change Research Institute, Remote* (February 2022)

"Emerging trade-offs and opportunities in sustainable urban mobility." *Princeton University, Department of Civil and Environmental Engineering, Remote* (February 2022)

"Tradeoffs between automation and light vehicle electrification" *Transportation Research Board 101st Annual Meeting, Subcommittee on Energy and Demand Implications of Connected and Automated Vehicles, AMS30(3), Washington D.C.* (January 2022)

"Impact of automation on long haul trucking operator hours in the United States" *Transportation Research Board 101st Annual Meeting, Washington D.C.* (January 2022) [Poster]

"Tradeoffs between automation and light vehicle electrification" *Transportation Research Board 101st Annual Meeting, Washington D.C.* (January 2022) [Poster]

“Sustained cost declines in solar PV and battery storage needed to eliminate coal generation in India.” *United States Association for Energy Economics (USAEE), Remote* (November 2021)

“Tradeoffs between automation and light vehicle electrification.” *United States Association for Energy Economics (USAEE), Remote* (November 2021)

“Sustained cost declines in solar PV and battery storage needed to eliminate coal generation in India.” *Battery Modelling Webinar Series (BWMS), Remote* (August 2021)

“The growth of nations revisited: global environmental accounting from 1998 to 2018.” *ETH Zurich Sustainability Academy, Remote* (September 2020)

"Automation is no barrier to light vehicle electrification" *Florida Autonomous Vehicles Summit, Miami, Florida* (November 2019) [Poster]

"Automation is no barrier to light vehicle electrification" *Carnegie Mellon Electricity Industry Center Annual Meeting, Pittsburgh, PA* (October 2019)

"Can autonomous light vehicles be fully electric?" *Centre for Climate and Energy Decision Making Annual Meeting, Pittsburgh, PA* (May 2019)

"Can autonomous light vehicles be fully electric?" *Carnegie Mellon University Energy Week Poster Competition, Pittsburgh, PA* (March 2019) [Poster]

"The social dimensions of energy transitions in India" *Alexander von Humboldt Foundation International Climate Protection Fellowship Seminar, Berlin, Germany* (February 2018)

"Non-state actors and equity in global climate policy" *United Nations Framework Convention on Climate Change (UNFCCC) Subsidiary Body 46 Conference, Bonn, Germany* (May 2017)

TEACHING EXPERIENCE

Carnegie Mellon University

Teaching Assistant, Applied Methods for Technology-Policy Analysis (Spring 2020)

Participant - Future Faculty Program, Eberly Center for Teaching Excellence & Innovation (Fall 2021)

SELECTED MEDIA COVERAGE

Marketplace Tech, **Carbon capture needs to scale up to make a dent in the climate crisis**, January 2023

Wall Street Journal, **Self-Driving Big Rigs Are Coming. Is America Ready?** June 2022

New York Times, **A look under the hood of the trucking industry**, April 2022

Bloomberg, **Robot Truckers Could Replace 500K U.S. Jobs,** March 2022

The Hill, **Self-driving semis may revolutionize trucking while eliminating hundreds of thousands of jobs,** March 2022

Bloomberg, **Why the Cars of Our Self-Driving Future Will Be Electric,** July 2020

Wired, **The intersection between self-driving cars and electric cars,** July 2020

Axios, The case for all-electric self-driving cars, June 2020

PROFESSIONAL SERVICE

Expert Reviewer	*Nature Communications, Joule, Energy & Environmental Science, Energy Policy*, *Climate Policy, iScience, Energy Advances, Transport Policy, and others.*

SELECTED OPINION COLUMNS & COMMENTARY

VoxEU, Growth, sustainability, and the measurement of global gross product [with Akshay Thagyarajan, Nicholas Z. Muller], July 2020

Hindustan Times, **Covid-19: India needs a green economic stimulus** [with Madalsa Singh], April 2020

Quint, **Make Nuclear Indian Again: Why Toshiba's Exit Is Not All Bad News,** February 2017

Australian Strategic Policy Institute, **Indian Climate Policy in a Post-Paris World** [with Samir Saran], February 2016

Brookings, **The time for a "New Deal" for climate change is now,** September 2015

LANGUAGE & PROGRAMMING SKILLS

Languages	English, Hindi, Spanish (European Level B1), German (European Level A2)
Programming	Proficient in MATLAB, Julia, GAMS, Python, R