# Jesse D. Jenkins

#### **Assistant Professor, Princeton University**

Dept. of Mechanical & Aerospace Engineering and Andlinger Center for Energy & Environment Andlinger 214 Olden Street Princeton, NJ 08544 Phone: (503) 333-1737 Email: jessejenkins@princeton Links: faculty profile Google Scholar

# **Research Interests**

I lead the Zero-carbon Energy Systems Research & Optimization Laboratory (ZERO Lab), which improves and applies optimization-based macro-energy systems models to evaluate and optimize low-carbon energy technologies, guide energy innovation and resource allocation decisions, and provide decision support to accelerate transitions to net-zero emissions energy systems.

# **Academic Appointments**

**Princeton University**, Princeton, NJ 2019 - present Assistant Professor, Mechanical and Aerospace Engineering and the Andlinger Center for Energy and the Environment

Affiliated Faculty, Center for Policy Research in Energy and Environment, School of Public and International Affairs

Associated Faculty, High Meadows Environmental Institute

Harvard University, Cambridge, MA 2018 - 2019 Postdoctoral Environmental Fellow, Harvard Kennedy School and Harvard University Center for the Environment

# Education

Massachusetts Institute of Technology, Cambridge, MA2014 - 2018Ph.D., Engineering Systems, Institute for Data, Systems and Society2014 - 2018Thesis: Electricity System Planning with Distributed Energy Resources: New Methods and Insights for<br/>Economics, Regulation and Policy [pdf].<br/>Advisor: Ignacio Perez-Arriaga2014 - 2018

Massachusetts Institute of Technology, Cambridge, MA Master of Science, Technology & Policy, Engineering Systems Division Thesis: Economic Regulation of Electricity Distribution Utilities Under High Penetration of Distributed Energy Resources [pdf].

University of Oregon, Eugene, OR

Bachelor of Science, Computer & Information Science and Philosophy, Robert D. Clark Honors College Magna cum laude

# **Other Research Experience**

MIT Energy Initiative, Cambridge, MA Research Assistant, Electric Power Research Center	2017 - 2018
<b>MIT Energy Initiative</b> , Cambridge, MA Research Assistant, Utility of the Future Study	2013 - 2017
MIT Industrial Performance Center, Cambridge, MA Research Assistant, Production in the Innovation Economy Study	2012 - 2013
<b>Breakthrough Institute</b> , Oakland, CA Director of Energy and Climate Policy Co-Director, Breakthrough Generation Fellowship Program	2008 - 2012
<b>Renewable Northwest</b> , Portland, OR Research and Policy Associate	2006 - 2008

# **Advisory and Consulting Roles**

Dig Energy, Advisory board member,	2023 - Present
Rondo Energy, Advisory board member,	2022 - Present
Energy Impact Partners, Technical and scientific advisor,	2022 - Present
MUUS Climate Partners, Technical and scientific advisor,	2022 - Present
Eavor Technologies, Advisory board member,	2021 - Present
DeSolve LLC, Partner,	2018 - Present
Clean Air Task Force, Consultant and policy advisor,	2014 - 2023

2012 - 2014

2002-2006

# Selected Fellowships, Awards and Honors

 Princeton School of Engineering & Applied Sciences Commendation List for Outstanding Teaching Awarded for excellence in teaching: Spring 2020, Fall 2020, Spring 2021, Spring 2023, Fall 2023, Spring 2024. • Vox.com "Future Perfect 50" list 2023 Awarded for public research impact as one of 50 of "the thinkers, activists, and scholars working on solutions to today's (and tomorrow's) biggest problems." • Engineering News-Record Top 25 Newsmakers Award 2022 Awarded for public research impact, including "predicting and understanding climate-change impacts now and in the future, and in leading efforts to model how solutions might work and how to get them done," including the REPEAT Project, whose "analyses of Biden administration policies and Congressional legislation ... became critical tools for policymakers, and everyone else, to understand the response path ahead." Princeton Engineering Research Council Award for Excellent in Teaching 2021 Selected by a council of undergraduate and graduate students in engineering "celebrating professors for mastery of academic disciplines, clarity in instruction, and dedication to their students' growth and well-being." National Academies Expert Committee on Accelerating Decarbonization in the U.S. 2020 Selected as the only junior faculty member to serve on a National Academies of Science, Engineering, and Medicine Committee on Accelerating Decarbonization in the United States. Served from 2020-2022. Harvard Society of Environmental Fellows Postdoctoral Fellowship 2018 Highly competitive postdoctoral fellowship supporting independent research. • MIT Energy Initiative Energy Fellowship 2017, 2022 • Martin Family Society of Graduate Fellows for Sustainability Fellowship 2016 Nominee, Best Technology & Policy Thesis 2014 National Science Foundation Graduate Research Fellowship 2012

# **Teaching Experience**

- Introduction to the Electricity Sector: Engineering, Economics and regulation (MAE 422/ENE 422 and MAE 533/ENE 522), *Princeton University* 
  - Spring 2024 (MAE 422: 3.9/5.0 rating; MAE 533: 4.8/5.0 rating).<sup>c</sup>
  - Spring 2023 ((MAE 422: 4.4/5.0 rating; MAE 533: 4.6/5.0 rating).<sup>c,e</sup>
  - Spring 2022 (MAE 422: 3.6/5.0 rating; MAE 533: 4.4/5.0 rating).
  - Spring 2021 (MAE 422: 4.9/5.0 rating; MAE 533: 4.6/5.0 rating).<sup>c</sup>
  - Spring 2020 (MAE 422: 4.6/5.0 rating; MAE 533: 4.6/5.0 rating).<sup>c</sup>
  - Lecture notes are publicly available. <sup>c</sup> - SEAS Commendation List for Outstanding Teaching; <sup>e</sup> - Engineering Research Council Award for Excellent in Teaching

- Applied Optimization Methods for Energy Systems Engineering (MAE 573/ENE 539), Princeton University
  - Fall 2023 (4.9/5.0 rating).<sup>c</sup>
  - Fall 2022 (4.1/5.0 rating).
  - Fall 2020 (4.7/5.0 rating).<sup>c</sup>
  - Interactive course notebooks and homeworks are publicly available. c - SEAS Commendation List for Outstanding Teaching
- Engineering, Economics and Regulation of the Electric Power Sector, (graduate level) Massachusetts Institute of Technology
  - Spring 2018 (lecturer)
  - Spring 2017 (lecturer)
  - Spring 2016 (teaching assistant)
  - Spring 2015 (teaching assistant)
- **Review of Concepts and Mathematics for Microeconomics**, (review for incoming masters students) *Massachusetts Institute of Technology* 
  - Summer 2017 (instructor)
  - Spring 2016 (instructor)
  - Spring 2015 (instructor)
- Ecological Footprint of Energy Systems, (undergraduate-level) University of Oregon
  - Fall 2006 (teaching assistant)
  - Fall 2005 (teaching assistant)

# **Publications**

#### Preprints

[10] Ricks, W., **Jenkins**, **J.D.**, "Pathways to national-scale adoption of enhanced geothermal power through experience-driven cost reductions," *Joule*, submitted, [preprint].

[9] Manocha, A., Patankar, N., Jenkins, J.D., "Reducing transmission expansion by co-optimizing sizing of wind, solar, storage and grid connection capacity," *Applied Energy*, under review, [arXiv.2303.11586v2].

[8] Atouife, M., Jenkins, J.D.,. "Emerging clean technologies: policy-driven cost reductions, implications and perspectives," *Joule*, under review, [arXiv.2408.10824].

[7] Luo, Q. Jenkins, J.D., "Impacts of EPA Power Plant Emissions Regulations on the US Electricity Sector," *OneEarth*, under review, [preprint].

[6] Zheng, Y., Hatzell, K., Jenkins, J.D., "Techno-Economic Optimization of Affordable Pathways to Decarbonize Industrial Process Heat," *Energy & Environmental Science*, major revisions, [preprint]. [5] Mantegna, G., Ricks, W., Manocha, A., Patankar, N., Mallapragada, D., Jenkins, J.D., "Establishing best practices for modeling long duration energy storage in deeply decarbonized energy systems," *Environmental Research: Energy*, revise & resubmit, [arXiv.2404.17474].

[4] Mohan, A., Cheng, F., Luo, H., Greig, C., Larson, E., Jenkins, J.D., "Direct Air Capture Integration with Low-Carbon Heat: Process Engineering and Power System Analysis," *One Earth*, minor revisions, [preprint].

[3] Schwartz, J.A, Ricks, W., Kolemen, E., **Jenkins, J.D.**, "Valuing maintenance strategies for fusion plants as part of a future electricity grid," *Applied Energy*, under review, [arXiv.2405.01514].

[2] Renteria, E.C., Schwartz, J.A., Jenkins, J.D., "Evaluating Advanced Nuclear Fission Technologies for Future Decarbonized Power Grids," *Applied Energy*, under review, [arXiv.2404.15491].

[1] Pecci, F., Jenkins, J.D., "Regularized Benders Decomposition for High Performance Capacity Expansion Models," *IEEE Trans. on Power Systems*, under second review, [arXiv.2403.02559].

### **Refereed Journal Articles**

[39] Lau, M., Patankar, N., **Jenkins, J.D.** (2024), "Measuring Exploration: Review and Systematic Evaluation of Modelling to Generate Alternatives Methods in Macro-Energy Systems Planning Models," *Environmental Research: Energy*, in press; working paper: [arXiv.2405.17342].

[38] Jacobson, A., Mauzerall, D., **Jenkins, J.D.** (2024), "Quantifying the Impact of Energy System Model Resolution on Siting, Cost, Reliability, and Emissions," *Environmental Research: Energy* 1(3), [doi:10.1088/2753-3751/ad6d6f].

[37] van der Jagt, S., Patankar, N., **Jenkins, J.D.** (2024), "Understanding the role and design space of demand sinks in low-carbon power systems," *Energy and Climate Change*, 5: 100132, [doi:10.1016/j.egycc.2024.100132]; [pdf].

[36] Ricks, W., Voller, K., Norbeck, J., **Jenkins, J.D.** (2024), "The Role of Flexible Geothermal Power in Decarbonized Electricity Systems," *Nature Energy*, January 15, [doi:10.1038/s41560-023-01437-y]; [pdf]; [cited by].

[35] Xu, Q., Manocha, A., Patankar, N., Jenkins, J.D. (2024), "System-level impacts of voluntary carbonfree electricity procurement strategies," *Joule* 8(2): 374-400, [doi:10.1016/j.joule.2023.12.007]; [pdf].

[34] Bistline, J., Brown, M., Domeshek, M., Marcy, C., Roy, N., Blanford, G., Burtraw, D., Farbes, J., Fawcett, A., Hamilton, A., **Jenkins, J.D.** et al., (2023), "Power sector impacts of the Inflation Reduction Act of 2022," *Environmental Research Letters* 19(1), [doi:10.1088/1748-9326/adod3b]; [cited by]; **downloaded**  $\geq$ 5,200 times.

[33] Mays, J., **Jenkins, J.D.** (2023), "Financial Risk and Resource Adequacy in Markets with High Renewable Penetration," *IEEE Trans. on Energy Markets, Policy and Regulation* 1(4): 523-535, [doi:10.1109/TEMPR.2023.3322531]; [pdf]; [cited by].

[32] Levin T., et al., (2023), "Energy storage solutions to decarbonize electricity through enhanced capacity expansion modelling, *Nature Energy*, September 14, [doi:10.1038/s41560-023-01340-6]; [pdf]; [cited by].

[31] Cheng, F., Luo, H., **Jenkins, J.D.**, Larson, E. (2023), "Inflation Reduction Act impacts on the economics of clean hydrogen and liquid fuels," *Environmental Science and Technology*, August 30, [doi:10.1021/acs.est.3c03063]; [pdf]; [cited by].

[30] Jacobson, A., Pecci, F., Xu, Q., Sepulveda, N., **Jenkins, J.D.**, (2023), "A computationally efficient Benders decomposition for energy systems planning problems with detailed operations and time-coupling constraints," *INFORMS J. on Optimization*, August 2, [doi:10.1287/ijoo.2023.0005]; [pdf]; [cited by].

[29] Bistline, J., Blanford, G., Brown, M., Butraw, D., Domeshek, M., Farbes, J., Fawcett, A., Hamilton, A., Jenkins, J.D. et al., (2023), "Emissions and Energy System Impacts of the Inflation Reduction Act of 2022," *Science* 380(6652): 1324-1327, [doi:10.1126/science.adg3781]; [pdf]; [cited by].

[28] Patankar, N., Sarkela-Basset, X., Schivley, G., Leslie, E., **Jenkins, J.D.**, (2023), "Land Use Trade-offs in Decarbonization of Electricity Generation in the American West, *Energy & Climate Change*, 4: 100107. [doi:10.1016/j.egycc.2023.100107]; [pdf]; [cited by].

[27] Mayfield, E., **Jenkins, J.D.**, Greig, C., Larson, E., (2023), 'Labor pathways to achieve net-zero emissions in the United States by mid-century," *Energy Policy* 177: 113516, [doi:10.1016/j.enpol.2023.113516]; [pdf]; [cited by].

[26] Moglen, R. et al., "The State of Macro-Energy Systems Research: Common Critiques, Current Progress, and Research Frontiers," *iScience* 26: 106325, [doi:10.1016/j.isci.2023.106325]; [pdf].

[25] Schwartz, J., Ricks, W., Kolemen, E., **Jenkins, J.D.** (2023), "The value of fusion energy to a decarbonized United States electric grid," *Joule* 7: 675-699, [doi:10.1016/j.joule.2023.02.006]; [pdf]; [cited by].

[24] Cheng F., Luo, H., **Jenkins, J.D.**, Larson, E. (2023), "The value of low-and negative-carbon fuels in the transition to net-zero emission economies: Lifecycle greenhouse gas emissions and cost assessments across multiple fuel types," *Applied Energy* 331: 120388, doi:10.1016/j.apenergy.2022.120388; [pdf]; [cited by].

[23] Ricks, W., Xu, Qingyu, **Jenkins**, **J.D.** (2022), "Minimizing emissions from grid-based hydrogen production in the United States," *Environmental Research Letters* 18(1): 014025, [doi:10.1088/1748-9326/acacb5]; [cited by]; **downloaded**  $\geq$ **25,100 times**.

[22] Lau M., Ricks, W., Patankar, N., **Jenkins, J.D.** (2022), "Europe's way out: Tools to rapidly eliminate imports of Russian natural gas," *Joule* 6(10): 2219-2224, [doi:10.1016/j.joule.2022.09.003]; [cited by].

[21] Cheng, F., Patankar, N., Chakrabarti, S, **Jenkins, J.D.** (2022), "Evaluating the operation flexibility of natural gas combined cycle power plant coupled with flexible carbon capture and storage," *I.J. Greenhouse Gas Control*, 118: 103686, [doi:10.1016/j.ijggc.2022.103686]; [pdf]; [cited by].

[20] Ricks, W., Norbeck, J., **Jenkins, J.D.** (2022), "The value of in-reservoir energy storage for flexible operation of geothermal systems," *Applied Energy* 313: 118807, [doi:10.1016/j.apenergy.2022.118807]; [pdf]; [cited by]. [19] Fell, H., Gilbert, A., **Jenkins, J.D.**, Mildenberger, M. (2022), "Reply to "Nuclear power and renewable energy are both associated with national decarbonization," *Nature Energy* 7: 25-29, [doi:10.1038/s41560-021-00964-w]; [pdf]; [cited by].

[18] Mayfield, E., **Jenkins, J.D.** (2021), "Influence of high road labor policies and practices on renewable energy costs, decarbonization pathways, and labor outcomes," *Environmental Research Letters* 16(12) 124012, [doi:10.1088/1748-9326/ac34ba]; [cited by]; **downloaded**  $\geq$ **4**,000 times.

[17] **Jenkins, J.D.**, Mayfield, E., Larson, E., Pacala, S., Greig, C. (2021), "Mission net-zero America: the nation-building path to a prosperous net-zero emissions economy," *Joule* 5(11): 2755-2761, [doi:10.1016/j.joule.2021.10.016], [cited by].

[16] **Jenkins, J.D.**, Sepulveda, N.S. (2021), "Long duration energy storage: a blueprint for research and innovation," *Joule* 5(9): 2241-2246, [doi:10.1016/j.joule.2021.08.002]; [cited by].

[15] Baik, E.J., Chawla, K.P., **Jenkins, J.D.**, Kolster, C., Patankar, N.S., Olson, A., Benson, S.M., Long, J. (2021), "What is different about different net-zero carbon electricity systems," *Energy & Climate Change* 2: 100046, [doi:10.1016/j.egycc.2021.100046]; [pdf]; [cited by].

[14] Sepulveda N.A., **Jenkins, J.D.**, Edington, A., Mallpragada, D., Lester, R.K (2021), "The design space for long-duration energy storage in decarbonized power systems," *Nature Energy* [doi:10.1038/s41560-021-00796-8]; [pdf; SI]; [cited by]

[13] DeCarolis, J.F., Jaramillo, P., ... Jenkins, J.D., et al. (2020), "Leveraging open-source tools for collaborative macro-energy system modeling efforts," *Joule* 4(12): 2523-2526 [doi:10.1016/j.joule.2020.11.002]; [cited by].

[12] Mallapragada, D.S., Sepulveda, N.M., **Jenkins, J.D.** (2020), "Long-run system value of battery energy storage in future grids with increasing wind and solar generation," *Applied Energy* 275 115390 [doi:10.1016/j.apenergy.2020.115390]; [pdf]; [cited by].

[11] Burger, S.P., **Jenkins, J.D.**, Battle, C., Pérez-Arriaga, I.J. (2019), "Restructuring revisited part 1: competition in electricity distribution systems," *The Energy Journal* 40(3) [doi:10.5547/01956574.40.3.sbur]; [pdf]; [cited by].

[10] Burger, S.P., **Jenkins, J.D.**, Battle, C., Pérez-Arriaga, I.J. (2019), "Restructuring revisited part 2: coordination in electricity distribution systems," *The Energy Journal* 40(3) [doi:10.5547/01956574.40.3.jjen]; [pdf]; [cited by].

[9] Jenkins, J.D., Luke, M., Thernstrom, S. (2018), "Getting to zero carbon emissions in the electric power sector," *Joule* 2(12) [doi:10.1016/j.joule.2018.11.013]; [pdf]; [cited by].

[8] Sepulveda, N., **Jenkins, J.D.**, Lester, R., de Sisternes, F. (2018), "The role of firm low-carbon electricity resources in deep decarbonization of electric power generation," *Joule* 2(11). [doi:10.1016/j.joule.2018.08.006]; [cited by]

[7] **Jenkins, J.D.**, Zhou, Z., Ponciroli, R., Ganda, F., de Sisternes, F., Botterud, A. (2018), "The benefits of nuclear flexibility in power systems operations with renewable energy," *Applied Energy* 222: 872-884. [doi:10.1016/j.apenergy.2018.03.002]; [cited by].

[6] Ponciroli, R., Wang, Y., Zhou, Z., Botterud, A., **Jenkins, J.D.**, Vilim, R.B., Ganda, F. (2017), "Profitability evaluation of load-following nuclear units with physics-induced operational constraints," *Nuclear Technology* 200(3): 189-207 [doi:10.1080/00295450.2017.1388668]; [cited by].

[5] **Jenkins, J.D.**, Pérez-Arriaga, I. (2017), "Improved regulatory approaches for the remuneration of electricity distribution utilities with high penetrations of distributed energy resources," *The Energy Journal* 38(3) [doi:10.5547/01956574.38.3.jjen]; [cited by].

[4] Pérez-Arriaga, I., **Jenkins, J.D.**, Batlle, C. (2017), "A regulatory framework for an evolving electricity sector: highlights of the MIT Utility of the Future study" *Economics of Energy and Environmental Policy* 6(1) [doi:10.5547/2160-5890.6.1.iper]; [cited by].

[3] de Sisternes, F.J., **Jenkins, J.D.**, Botterud, A. (2016), "The value of energy storage in decarbonizing the electricity sector," *Applied Energy* 175: 368-379 [doi:10.1016/j.apenergy.2016.05.014]; [cited by].

[2] Loftus, P.J., Cohen, A.M., Long, J.C.S, **Jenkins, J.D.** (2015), "Global decarbonization scenarios: a critical review," *Wiley Interdisciplinary Reviews: Climate Change* 6(1): 93-112 [doi:10.1002/wcc.324]; [cited by].

[1] **Jenkins, J.D.** (2014), "Political economy constraints on carbon pricing policies: What are the implications for economic efficiency, environmental efficacy, and climate policy design?" *Energy Policy* 69: 467-477. [doi:10.1016/j.enpol.2014.02.003]; [cited by].

### **Public-Facing Research Reports**

[20] Jenkins, J.D., Farbes, J., Jones, R., "Climate Progress 2024: REPEAT Project's Annual U.S. Emissions Pathways Update," REPEAT Project, August, 2024, [doi:10.5281/zenodo.13345138; downloaded  $\geq$ 1,000 times.

[19] "Clean Investment in 2023: Assessing Progress in Electricity and Transport," New York, NY: Rhodium Group, MIT Center for Policy Research in Energy & Environment, REPEAT Project, Energy Innovation, February 2024, [available here]; In total, REPEAT Project reports have been **downloaded**  $\geq$ **14,000 times**.

[18] **Jenkins, J.D.**, Mayfield, E., Farbes, J., Schivley, G., Patankar, N., Jones, R., "Climate Progress and the 117th Congress: The Impacts of the Inflation Reduction Act and Infrastructure Investment and Jobs Act," Princeton, NJ: REPEAT Project, July 2023, doi:10.5281/zenodo.8087805; In total, REPEAT Project reports have been **downloaded**  $\geq$ 14,000 times.

[17] Min, Y., Brinkerink, M., **Jenkins, J.D.**, Mayfield, E., "Effects of Renewable Energy Provisions of the Inflation Reduction Act on Technology Costs, Materials Demand, and Labor," Princeton, NJ: Zero-Carbon Energy Systems Research and Optimization Laboratory (ZERO Lab), Princeton University, June 2023, doi:10.5281/zenodo.7942444; **downloaded**  $\geq$ **4**,000 times.

[16] Ricks, W. **Jenkins, J.D.**, "The Cost of Clean Hydrogen with Robust Emissions Standards: A Comparison Across Studies," Princeton, NJ: Zero-Carbon Energy Systems Research and Optimization Laboratory (ZERO Lab), Princeton University, April 2023, doi:10.5281/zenodo.7838873; **downloaded**  $\geq$ **3,000 times**.

[15] Xu, Q., Patankar, N., Lau, M., Zhang, C., **Jenkins, J.D.**, "Cleaner, Faster, Cheaper: Impacts of the Inflation Reduction Act and a Blueprint for Rapid Decarbonization in the PJM Interconnection," Princeton, NJ: Zero-Carbon Energy Systems Research and Optimization Laboratory (ZERO Lab), Princeton University, December 2022, doi:10.5281/zenodo.7423518; **downloaded**  $\geq$ **2**,000 times.

[14] **Jenkins, J.D.**, Farbes, J., Jones, R., Patankar, N., Schivley, G., "Electricity Transmission is Key to Unlock the Full Potential of the Inflation Reduction Act," Princeton, NJ: REPEAT Project, September 2022, doi:10.5281/zenodo.7106175; In total, REPEAT Project reports have been **downloaded**  $\geq$ 14,000 times.

[13] Xu, Q., **Jenkins, J.D.**, "Electricity System and Market Impacts of Time-based Attribute Trading and 24/7 Carbon-free Electricity Procurement," Princeton, NJ: Zero-Carbon Energy Systems Research and Optimization Laboratory (ZERO Lab), Princeton University, September 2022, doi:10.5281/zenodo.7082211; downloaded  $\geq$ 3,000 times.

[12] Jenkins, J.D., Farbes, J., Jones, R., Mayfield, E.N., "REPEAT Project Section-by-Section Summary of Energy and Climate Policies in the 117th Congress," Princeton, NJ: REPEAT Project, August 2022, doi:10.5281/zenodo.6993117; accessed  $\geq$ 15,630 times.

[11] **Jenkins, J.D.**, Mayfield, E.N., Farbes, J., Jones, R., Patankar, N., Xu, Q., Schivley, G., "Preliminary Report: The Climate and Energy Impacts of the Inflation Reduction Act of 2022," Princeton, NJ: REPEAT Project, August 2022, doi:10.5281/zenodo.7106217; In total, REPEAT Project reports have been **down-loaded**  $\geq$ 14,000 times.

[10] Lau, A., Ricks, W., Patankar, N., **Jenkins, J.D.**, "Pathways to European Independence from Russian Natural Gas," Princeton, NJ: Zero-Carbon Energy Systems Research and Optimization Laboratory (ZERO Lab), Princeton University, July 2022, doi:10.5281/zenodo.6811675; [cited by]; **downloaded**  $\geq$ **4,300 times**.

[9] Xu, Q., Patankar, N., Zhang, C., **Jenkins, J.D.**, "New Jersey's Pathway to a 100% Carbon-Free Electricity Supply: Policy and Technology Choices Through 2050," Princeton, NJ: Zero-Carbon Energy Systems Research and Optimization Laboratory (ZERO Lab), Princeton University, March 2022, doi:10.5281/zenodo.6345570; **downloaded**  $\geq$ 2,000 times.

[8] **Jenkins, J.D.**, Mayfield, E.N., Jones, R., Farbes, J., Patankar, N., et al., "Summary Report: The Climate Impact of Congressional Infrastructure and Budget Bills," Princeton, NJ: REPEAT Project, February 2022, doi:10.5281/zenodo.6311985; In total, REPEAT Project reports have been **downloaded**  $\geq$ **14,000 times**.

[7] Xu, Q., Manocha, A., Patankar, N., **Jenkins, J.D.**, "System-level Impacts of 24/7 Carbon-free Electricity Procurement," Princeton, NJ: Princeton, NJ: Zero-Carbon Energy Systems Research and Optimization Laboratory (ZERO Lab), Princeton University, November 2021. doi:10.5281/zenodo.6229425; [cited by]; **downloaded**  $\geq$ 2,000 times.

[6] Larson, E., Greig, C., **Jenkins, J.D.** et al., Net-Zero America: Potential Pathways, Infrastructure, and Impacts. Princeton, NJ: Princeton University, December 2020 (interim report), October 2021 (final report). [link]; [cited by]; in total Net-Zero America study reports have been **downloaded**  $\geq$ **54,000 times**.

[5] Long, J.C.S., Baik, E., **Jenkins, J.D.**, et al., "California needs clean firm power, and so does the rest of the world," report of the SB 100 Pathways Project. San Francisco, CA: Environmental Defense Fund, March 2021. [link].

[4] National Academies of Sciences, Engineering, and Medicine. Accelerating Decarbonization of the U.S. Energy System. Washington, DC: The National Academies Press, January 2021. doi:10.17226/25932, [link]; [cited by].

[3] Jenkins, J.D., Stokes, L., Wagner, G. (ed.), "Carbon Pricing and Innovation in a World of Political Constraints," workshop report, December 2020; [link].

[2] Pérez-Arriaga, I.J., et al., Utility of the Future: An MIT Energy Initiative response to an industry in transition, Cambridge, MA: MIT Energy Initiative, December, 2016. (Lead author of Chapters 5, 6, and 8 and contributor to Chapters 1, 2, 4, 9, and Executive Summary) [link] [cited by].

[1] Berger, S., et al., Making in America: From Innovation to Market, Cambridge, MA: MIT Press, August, 2013. (Contributor to Chapter 8) [link].

#### **Working Papers**

[6] **Jenkins, J.D.** (2019), "Why carbon pricing falls short (and what to do about it)," Kleinman Center for Energy Policy, University of Pennsylvania, [link]; [pdf]; [cited by].

[5] Burger, S.B., **Jenkins, J.D.**, Batlle, C. and Pérez-Arriaga, I. (2018)., "Restructuring revisited: competition and coordination in electricity distribution systems," MIT Center for Energy and Environmental Policy Research, Working Paper Series No. 2018-007 [link]; [pdf]; [brief]; [cited by].

[4] **Jenkins, J.D.** (2018), "What's killing nuclear power in U.S. electricity markets? Drivers of wholesale price declines at nuclear generators in the PJM Interconnection," MIT Center for Energy and Environmental Policy Research, Working Paper Series No. 2018-001 [link]; [pdf] [brief] [cited by].

[3] **Jenkins, J.D.** and Sepulveda, N. (2017), "Enhanced Decision Support for a Changing Electricity Landscape: the GenX Configurable Electricity Resource Capacity Expansion Model," MIT Energy Initiative Working Paper [link]; [cited by].

[2] Jenkins, J.D. and Karplus, V.J. (2016), "Carbon pricing under binding political constraints," UN University-WIDER, Working Paper 2016/44 [link]; [cited by].

[1] **Jenkins, J.D.** and Pérez-Arriaga, I. (2014), "The Remuneration Challenge: New solutions for the regulation of electricity distribution utilities under high penetrations of distributed energy resources and smart grid technologies," MIT Center for Energy and Environmental Policy Research, Working Paper No. 2014-005 [link]; [cited by].

### **Book Chapters and Magazine Articles**

[5] Jenkins, J.D., (2023), "What "Electrify Everything" Actually Looks Like," *Mother Jones* (May/June), [link].

[4] Long, J.C.S., Baik, E., **Jenkins, J.D.**, et al. (2021), "Clean Firm Power is the Key to California's Carbon-Free Energy Future," *Issues in Science and Technology* (March 24). [link]; [cited by].

[3] Azevedo, I., Davidson, M.R., **Jenkins, J.D.**, Karplus, V.J., Victor, D.G. (2020), "The Paths to Net Zero: How Technology Can Save the Planet," *Foreign Affairs* 99 (May/June), [link] [pdf] [cited by].

[2] Burger, S.P., **Jenkins, J.D.**, Huntington, S.C., Pérez-Arriaga, I.J. (2019), "Why distributed? A critical review of the tradeoffs between centralized and decentralized resources," *IEEE Power and Energy Magazine* 17(2): 16-24. doi:10.1109/MPE.2018.2885203 [pdf]; [cited by].

[1] **Jenkins, J.D.**, Karplus, V.J. (2017), "Carbon Pricing under Political Constraints: Insights for Accelerating Clean Energy Transitions," in Arent, D. et al. (Ed.), *The Political Economy of Clean Energy Transitions* (pp. 39-59), Oxford, UK: Oxford University Press [pdf] [cited by].

# **Invited Talks**

#### Since January 2022

[55] ARPA-E FLexible CCS (FLECCS) Program Annual Meeting, August 9, 2024.

[54] Florence School of Regulation, summer school training program for electricity regulators, July 5, 2024.

[53] Empower 2024, keynote, June 6, 2024.

[52] California Institute of Technology (Caltech), Resnik Sustainability Institute, Chen-Huang Sustainability Series Lecture, May 16, 2024.

[51] Massachusetts Institute of Technology, Institute for Data, Systems & Society Distinguished Seminar Series, May 6, 2024.

[50] Society of Environmental Journalists, Environmental Journalism Conference, April 4, 2024.

[49] Massachusetts Institute of Technology, Center for Energy Research in Energy & Environment Seminar, February 14, 2024.

[48] Massachusetts Institute of Technology, Industrial Strategy Seminar, February 14, 2024.

[47] Princeton Plasma Physics Laboratory, Science on Saturdays lecture series, February 10, 2024, [video].

[46] Institute for Journalism & Natural Resources, Great Lakes 2024, February 7, 2024.

[45] Columbia University, China-U.S. Renewables Integration Roundtable, January 25, 2024.

[44] Intersolar North America & Energy Storage North America 2024, keynote, January 17, 2024, [video].

[43] U.S. House of Representatives, Sustainable Energy & Environment Caucus, staff briefing, January 12, 2024.

[42] University of Melbourne, Melbourne Energy Institute Public Lecture, December 18, 2023.

[41] National Bank of Canada, 4th Annual Clean Tech Conference, keynote, November 21, 2023.

[40] Trustees of Princeton University, November 17, 2023.

[39] Georgetown Law, Greentech Conference, keynote, November 11, 2023.

[38] GE Vernova, Electrification Symposium, October 12, 2023.

[37] Denison University, Minds Wide Open Series, September 28, 2023.

[36] Electricity Systems Integration Group (ESIG), Long-term Forecasting Workshop, keynote, June 13, 2023.

[35] Association of Cooperative Electricity Suppliers (ACES), Annual Members Summit, keynote, June 6, 2023.

[34] JP Morgan, Scottsdale Action Forum, keynote, May 24, 2023.

[33] Resources for the Future, Modeling Industrial Decarbonization Workshop, May 17, 2023.

[32] University of Chicago, guest lecture, May 17, 2023.

[31] U.S. Department of Energy, Enhanced Geothermal Shot Summit, keynote, May 11, 2023, [video].

[30] Cornell University, Perspectives on the Climate Challenge Seminar, April 10, 2023, [video.

[29] U.S. House of Representatives Sustainable Energy & Environment Caucus, staff briefing, March 20, 2023.

[28] North Jersey Transportation Planning Authority, public lecture, March 13, 2023.

[27] University of California, San Diego, guest lecture, March, 9, 2023.

[26] Rutgers University, Climate Academy public webinar, February 10, 2023.

[25] U.S. Environmental Protection Agency, presentation, annual leadership retreat, February 1, 2023.

[24] Sloan Foundation, staff seminar, January 17, 2023.

[23] Carnegie Mellon University, Engineering and Public Policy Seminar, December 14, 2022.

[22] Harvard Electricity Policy Group, December 12, 2022.

[21] New England Restructuring Roundtable, December 9, 2022.

[20] Massachusetts Institute of Technology, Center for Energy and Economic Policy Research Annual Meeting, November 17, 2022.

[19] U.S. House of Representatives New Democrats Caucus, staff briefing, November 15, 2022.

[18] Federal Energy Regulatory Commission, staff training webinar, November 1, 2022.

[17] The Engine, Tough Tech Summit, October 27, 2022.

[16] Boston College, Faculty Climate Change Research Seminar, October 26, 2022.

[15] GE, Energy Leadership Forum, October 13, 2022.

[14] University of Washington, Clean Energy Institute Seminar, October 6, 2022.

[13] New Jersey Clean Energy Conference, keynote address, October 4, 2022.

[12] U.S. House of Representatives Sustainable Energy & Environment Caucus, staff briefing, September 22, 2022.

[11] Electric Power Research Institute, Workshop on Modeling Advanced Nuclear Technologies, September 19, 2022.

[10] Princeton University, Bradford Seminar, September 12, 2022, [video].

[9] UK Climate Change Committee, staff briefing, September 9, 2022.

[8] Princeton Plasma Physics Laboratory, PPPL Colloquium, September 8, 2022, [video].

[7] National Association of Regulatory Utilities Commissions (NARUC), Electricity Committee meeting, August 26, 2022.

[6] Electric Power Research Institute, Overcoming Barriers to Deploying Direct Air Capture, August 11, 2022.

[5] Resources For the Future, public webinar in impacts of the Inflation Reduction Act, August 10, 2022.

[4] Columbia University, Center for Global Energy Policy, invited seminar, July 12, 2022.

[3] VERGE Electrify, keynote address, July 7, 2022, [video].

[2] ARPA-E, Annual Summit, invited panelist, May 23, 2022.

[1] National Academies of Science, Engineering, Medicine, Carbon Utilization Webinar, March 2, 2022.

# **Government Testimony**

[8] "The U.S. Electric Vehicle Transition: Recent Trends and Current Outlook," Committee on the Budget, United States Senate, July 31, 2024 [testimony], [video].

[7] "Three pillars for a truly clean hydrogen industry," Select Committee on Building a Zero-carbon Hydrogen Economy, California State Assembly, March 3, 2024 [testimony].

[6] "Testimony on S.2978, the New Jersey Clean Energy Act of 2023," Committee on Environment and Energy, New Jersey State Senate, November 20, 2023 [testimony].

[5] "New Jersey's Pathway to a 100% Carbon-Free Electricity Supply," Committee on Environment and Energy, New Jersey State Senate, March 14, 2022 [testimony].

[4] "Lessons on lessons learned from the Texas Blackouts: research needs for a secure and resilient grid," Committee on Science, Space and Technology, United States House of Representatives, March 18, 2021 [testimony and video].

[3] "Testimony on firm low-carbon resources, nuclear power, and the transition to a net zero emissions electricity system," Select Committee on the Climate Crisis, United States House of Representatives, September 20, 2019 [testimony].

[2] "Testimony regarding the Climate and Community Protection Act," Committee on Environmental Conservation, New York State Senate, February 12, 2019 [testimony].

[1] "Invited testimony on energy innovation policy," Committee on Energy and Natural Resources, United States Senate, May 22, 2012 [testimony], [video].

### Selected Press Coverage

- "The Professor Helping Guide Billions in Climate Spending", Wall Street Journal, July. 2023 [url].
- "The Single Best Guide to Decarbonization I've Heard", The Ezra Klein Show, July. 2023 [url].

## **Research Funding**

### \$7.15 million secured to date

- 2024 Sonoma Clean Power, "Incorporating Uncertainty into California's Generation and Transmission Planning Process," \$327,311
- 2024 Google, "System Impacts of 24x7 Carbon-free Electricity Procurement without Hourly Metered Consumption," **\$45,000**
- 2024 GE Vernova, Unrestricted gift in support of ZERO Lab Technology Evaluation Program \$100,000
- 2024 U.S. Department of Energy, "Electricity system modeling for Pathways to Commercial Liftoff: Next-Generation Geothermal Power," **\$51,326**
- 2024 Breakthrough Energy, Unrestricted gift in support of ZERO Lab Technology Evaluation Program \$100,000
- 2024 Princeton University Carbon Mitigation Initiative (BP), "General support for energy systems modeling" **\$100,000**
- 2024 Princeton University Carbon Mitigation Initiative (BP), "Postdoctoral fellowship program" \$100,000
- 2024 Google, Unrestricted gift in support of ZERO Lab Technology Evaluation Program \$200,000
- 2023 Princeton Energy Research Fund, Clean Air Task Force, Deloitte, Google, "Understanding speed limits to global decarbonization ambitions to better inform more feasible deep decarbonization pathways," co-PI (total award, \$1,500,000) \$245,000
- 2023 U.S. Department of Energy, "An Equitable, Affordable & Resilient Nationwide Energy System Transition (EARNEST)," subaward via Stanford University **\$755,000**
- 2023 Chan Zuckerberg Initiative, "Modeling the system-level impacts of geothermal energy-driven direct air carbon capture in the U.S. Mountain West," subaward via Fervo Energy \$174,000
- 2023 Linden Trust, Breakthrough Energy, and Frontier Climate, "Modeling system-level impacts of direct air capture deployment,' \$299,955
- 2023 The Eric and Wendy Schmidt Fund for Strategic Innovation, "Net-Zero Earth Initiative" \$499,510
- 2023 BlueGreen Alliance, "Effects of Renewable Energy Provisions of the Inflation Reduction Act (IRA) on Technology Costs, Manufacturing and Unemployment" **\$15,000**

- 2023 U.S. Department of Energy, Advanced Research Projects Agency for Energy (ARPA-E), "Electricity system capacity expansion and operational modeling for evaluation and optimization of flexible carbon capture and sequestration systems," Phase 2 \$349,998
- 2023 Breakthrough Energy, Unrestricted gift in support of ZERO Lab Technology Evaluation Program **\$200,000**
- 2023 ClearPath Foundation, Unrestricted gift in support of ZERO Lab Technology Evaluation Program **\$100,000**
- 2023 GE, Unrestricted gift in support of ZERO Lab Technology Evaluation Program \$100,000
- 2023 Princeton University Carbon Mitigation Initiative (BP), "General support for energy systems modeling" **\$100,000**
- 2023 Princeton University Carbon Mitigation Initiative (BP), "Postdoctoral fellowship program" \$100,000
- 2022 U.S. Department of Energy, Advanced Research Projects Agency for Energy (ARPA-E), "FervoFlex: Long duration in-reservoir energy storage and load-following, dispatchable geothermal generation," subaward via Fervo Energy (total award: \$4,500,000) \$404,125
- 2022 Hewlett Foundation, "U.S. clean energy policy evaluation project" (extension), \$255,000
- 2022 Google, "Electricity System and Market Impacts of Time-based Attribute Trading and 24x7 Carbonfree Electricity Procurement" **\$76,006**
- 2022 Princeton University Carbon Mitigation Initiative (BP), "General support for energy systems modeling"**\$100,000**
- 2022 Princeton University Carbon Mitigation Initiative (BP), "Postdoctoral fellowship program" \$100,000
- 2022 ClearPath Foundation, Unrestricted gift in support of ZERO Lab Technology Evaluation Program **\$100,000**
- 2022 Google, Unrestricted gift in support of ZERO Lab Technology Evaluation Program \$200,000
- 2022 GE, Unrestricted gift in support of ZERO Lab Technology Evaluation Program \$100,000
- 2021 Google, "Evaluation of 24x7 clean electricity procurement" \$95,500
- 2021 Hewlett Foundation, "U.S. clean energy policy evaluation project" \$530,000
- 2021 Princeton University Carbon Mitigation Initiative (BP), "General support for energy systems modeling" **\$100,000**
- 2021 Princeton University Carbon Mitigation Initiative (BP), "Postdoctoral fellowship program" \$100,000
- 2020 Community Energy, "PJM rapid decarbonization blueprint and policy evaluation"\$154,842
- 2020 U.S. Department of Energy, Geothermal Technologies Office (GTO), "In-reservoir energy storage for flexible geothermal operations", sub-award via Fervo Energy (total award: \$200,000) **\$66,000**
- 2020 BlueGreen Alliance, "Effects of labor cost premiums on U.S. decarbonization pathways and renewable energy sector employment" \$34,563
- 2020 U.S. Department of Energy, Advanced Research Projects Agency for Energy (ARPA-E), "Electricity system capacity expansion and operational modeling for evaluation and optimization of flexible carbon capture and sequestration systems" **\$683,454**
- 2020 Sloan Foundation, Hewlett Foundation, Center for Equitable Growth, and the Niskanen Center, "Workshop on carbon pricing under political constraints", co-PI (total award: \$120,000) **\$9,475**
- 2020 Princeton University Carbon Mitigation Initiative (BP), "General support for energy systems modeling" **\$100,000**
- 2020 Princeton University Carbon Mitigation Initiative (BP), "Postdoctoral fellowship program" \$100,000
- 2019 PSEG, "New Jersey's Role in Deep Decarbonization of PJM", co-PI (total award: \$251,383) \$103,443

• 2019 Bernard and Anne Spitzer Charitable Trust, "Electricity modeling and data platform project", subaward via Clean Air Task Force (total award: \$415,907) **\$87,750** 

# Service and Leadership

## Academic Leadership and Public Service

• Steering Committee Member, Macro-Energy Systems Society	2020 - present
Workshop Organizing Committee Chair, Macro-Energy Systems 2024 Workshop [link]	2023 - 2024
• Organizing Committee Member, NAE 2022 US Frontiers in Engineering Symposium	2021 - 2023
• Workshop Organizing Committee Member, <i>Macro-Energy Systems 2022 Workshop</i> [link]	2021 - 2022
• Consensus Committee Member, <i>National Academies of Science, Engineering and Medicine</i> ( on Accelerating Decarbonization in the United States [link]	NASEM) study 2020 - 2022
• Member, Technical Advisory Group, New York State Climate Action Committee	2021
• Workshop Organizing Committee Member, Macro-Energy Systems 2020 Workshop [link]	2020
• Technical Steering Committee Member, Massachusetts 2050 Decarbonization Roadmap	2019 - 2020
• Co-President, MIT Electricity Students Research Group (ESRG)	2014 - 2017

# Princeton University and Department service activities

• Search Committee Chair, Andlinger Center for Energy & Environment	2024 - present
Seminar Committee, Mechanical & Aerospace Engineering	2024 - present
• University Committee on Admissions & Financial Aid, Princeton University	2023 - present
• Search Committee, Andlinger Center for Energy & Environment	2022 - 2023
• Search Committee, Andlinger Center for Energy & Environment	2021 - 2022
• Faculty Panel on Dissociation Metrics, Principles, and Standards, Princeton University	2020 - 2022
University Committee on Student Life, Princeton University	2020 - 2022

# **Professional and Academic Societies**

• Member, Institute for Operations Research and the Management Sciences (INFORMS)	2009 - present
• Member, International Association for Energy Economics (IAEE)	2012 - 2021
• Member, US Association for Energy Economics (USAEE)	2012 - 2021
• Student Member, Association of Environmental and Resource Economists (AERE)	2017 - 2018
• Student Member, Institute for Electrical and Electronics Engineers (IEEE)	2016 - 2017

# Advising

### **Current Postdoctoral Advisees**

[4] Dr. Qian Luo, 2023-present

[3] Dr. A.D.T. Perera, (Associate Research Scholar), 2022-present

[2] Dr. Filippo Pecci, (Associate Research Scholar), 2022-present

[1] Dr. Aniruddh Mohan (Associate Research Scholar), 2022-present (co-advised with Eric Larson & Chris Greig)

### Former Postdoctoral Advisees

[6] Dr. Fangwei Cheng, (Associate Research Scholar), 2020-2024 (co-advised with Eric Larson), Currently: Sustainability Scientist, Amazon

[5] Dr. Jacob Schwartz, 2020-2022 (co-advised with Egemen Kolemen), Currently: Staff Scientist, Princeton Plasma Physics Laboratory

[4] Dr. Qingyu Xu, 2020-2022, Currently: Research Faculty, Energy Internet Research Institute, Tsinghua University

[3] Dr. Neha Patankar, 2019-2022, Currently: Assistant Professor, Systems Science and Industrial Engineering, Binghamton University

[2] Dr. Erin Mayfield, 2019-2021, (co-advised with Eric Larson), Currently: Assistant Professor, Thayer School of Engineering, Dartmouth College

[1] Dr. Chuan Zhang, 2019-2021 (co-advised with Eric Larson), Currently: Assistant Professor, Institute of Energy, Peking University

### **Current Doctoral Student Advisees**

[13] Anna Li, Mechanical & Aerospace Engineering, G1, 2024-present

[12] Godwin Obi, Mechanical & Aerospace Engineering, G2, 2023-present

[11] Margot Adam, Public & International Affairs, Science, Technology & Environmental Policy, G2, 2023present (co-advised with Michael Oppenheimer)

[10] Gabriel Mantegna, Mechanical & Aerospace Engineering, G3, 2022-present

[9] Mohamed Atouife, Mechanical & Aerospace Engineering, G3, 2022-present

[8] Michael Lau, Mechanical & Aerospace Engineering, G<sub>3</sub>, 2021-present (HMEI Science Technology & Environmental Policy Fellow)

[7] Avery Barnett, Public & International Affairs, Science, Technology & Environmental Policy, G4, 2021present (co-advised with Michael Oppenheimer)

[6] Edmund "Ned" Downie, Public & International Affairs, Science, Technology & Environmental Policy, G4, 2021-present (co-advised with Denise Mauzerall)

[5] Yujie Wu, Public & International Affairs, Science, Technology & Environmental Policy, G5, 2021-present (co-advised with Denise Mauzerall)

[4] Oladoyin Phillips, Public & International Affairs, Science, Technology & Environmental Policy, G<sub>5</sub>, 2020-present (co-advised with Michael Oppenheimer)

[3] Malini Nambiar, Public & International Affairs, Science, Technology & Environmental Policy, G6, 2021present (co-advised with Denise Mauzerall); defense expected Spring, 2025

[2] Anna Jacobson, Program on Quantitative & Computational Biology, G6, 2020-present (HMEI Science Technology & Environmental Policy Fellow); defense expected Spring, 2025

[1] Wilson Ricks, Mechanical & Aerospace Engineering, G6, 2020-present (HMEI Science Technology & Environmental Policy Fellow); defense scheduled October, 2024

#### Former Doctoral Student Advisees

[1] Yanjie Zheng, Mechanical & Aerospace Engineering, 2022-2024 G5, (co-advised with Kelsey Hatzell)

#### Former Masters Student Advisees

[4] Charles Fraser, Public & International Affairs, MPA, 2023-2024<sup>r</sup>

[3] Vladimir Jovanovic, Public & International Affairs, MPP, 2023-2024<sup>r</sup>

[2] Chris Lawrie, Mechanical & Aerospace Engineering, MEng, 2021-2022<sup>r</sup>

[1] Xiili Sarkela-Bassett, Civil & Environmental Engineering, MSE, 2019-2020<sup>r,t</sup>

<sup>r</sup> denotes *research assistant*; <sup>t</sup> denotes thesis supervisor

#### **Current Undergraduate Student Advisees and Research Assistants**

[1] Abigail Cheng, Civil & Environmental Engineering, 2023-present<sup>*r*</sup> denotes *research assistant*; <sup>*t*</sup> denotes thesis supervisor

#### Former Undergraduate Student Advisees and Research Assistants

[13] Sullivan Meyer, Mechanical & Aerospace Engineering, 2023-2024<sup>t</sup>

[12] Vinay Konuru, Electrical & Computer Engineering, 2023-2024<sup>t</sup>

[11] Aneesha Manocha, Electrical & Computer Engineering, 2020-2023<sup>*r,t*</sup> (Kanders Churchill Scholar and Charles Ira Young Memorial Tablet & Medal, 2023)

[10] Emilio Cano Renteria, Civil & Environmental Engineering, 2022-2023<sup>t</sup> (T. A. Barron Prize in Environmental Leadership, James Hayes-Edgar Palmer Prize in Engineering, W. Mack Angas Prize, and Spirit of Princeton Award, 2023)

[9] Riti Bhandarkar, Civil & Environmental Engineering, 2020-2023<sup>*r*,*t*</sup>

[8] Arielle Rivera, Electrical & Computer Engineering, 2022-2023<sup>t</sup>

[7] Katherine Graham, Electrical & Computer Engineering, 2022-2023<sup>t</sup>

[6] Patrick Huang, Mechanical & Aerospace Engineering, 2021-2022<sup>t</sup>

[5] Claire Wayner, Civil & Environmental Engineering, 2020-2022<sup>r,t</sup>, (Moses Taylor Pyne Honor Prize,

James Hayes-Edgar Palmer Prize in Engineering, and W. Mack Angas Prize, 2022)

[4] Sam van der Jagt, Mechanical & Aerospace Engineering, 2020-2021<sup>t</sup>

[3] Cutter Esson, Mechanical & Aerospace Engineering, 2019-2020<sup>t</sup>

[2] Alex Caldwell, Mechanical & Aerospace Engineering, 2019-2020<sup>t</sup>

[1] Melissa Fan, Mechanical & Aerospace Engineering, 2019-2020<sup>*t*</sup>

<sup>*r*</sup> denotes *research assistant*; <sup>*t*</sup> denotes thesis supervisor

### **Current Professional Staff**

[4] Dr. Luca Bonaldo, 2023-present, Research Software Engineer, software and modeling tools

[3] Dr. Greg Schivley, 2023-present, Professional Research Specialist, software, data, and modeling tools

[2] Cecelia Isaac, 2022-present, Professional Specialist, GIS, (co-supervised with Eric Larson)

[1] Dr. Sambuddha Chakrabarti, 2020-present, Professional Research Specialist, software and modeling tools