# Destenie Nock, PhD

Assistant Professor, Civil & Environmental Engineering, Engineering & Public Policy, Carnegie Mellon University
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## SUMMARY

Dr. Destenie Nock is a leader in energy justice, sustainability, and equitable energy transitions with over 9 years of experience. Her work takes multi-criteria decision analysis, optimization, and linear programming, and applies these tools to fields in energy, environmental justice, energy poverty and sustainability. My primary research topics center around decision analysis, international development, and the energy-poverty-climate change nexus.

## POSITIONS AND APPOINTMENTS

**Chief Executive Officer Peoples Energy Analytics LLC** **2022 - Present**

**Chief Sustainability Officer DevvStream Inc** (Consulting Role) **2022 - Present**

**Assistant Professor (Joint Appointment)** at Carnegie Mellon University **2020 - Present**
Engineering & Public Policy and Civil & Environmental Departments

**Director of Data and Analytics Devvio Inc** (Consulting Role) **2021 - Present**

**Presidential Post-Doctoral Fellow** at Carnegie Mellon University **2019-2020**
Engineering and Public Policy Department

**Argonne National Lab Intern** May 2017 - Aug 2017

- Developed a model which can determine the optimal layout of the power system in a given country given the goals of decision makers. This work applied a benefit maximization approach to the power grid planning problem.
- Enhanced project management, data gathering, and industrial engineering skills through developing a network flow model to allow government entities to evaluate different options for expanding the power grid.
- Performed a literature review of the value of transmission expansion projects in a high renewable future.

**Northern Ireland Authority for Utility Regulation** Apr 2015 - June 2015
**Intern**
*Belfast, Northern Ireland*

- Developed a report detailing how a government policy, which was designed to increase the amount of small scale renewable energy generation in Northern Ireland, is affecting the reliability of the power grid, and electricity costs.
- Examined how government policies have impacted the security of the power grid in Northern Ireland.
- Analyzed the mitigation methods companies are employing to address the impacts of the rise in small scale and micro generation.

**Wind Energy Science Program, Iowa State University** May 2013 - Aug 2013
**Undergraduate Researcher**
*Ames, Iowa*

- Investigated and evaluated the implementation of renewable storage methods to the power grid.
- My research investigated the effects of wind farm participation in energy markets as well as the regulation service market using a production costing study in the IEEE 24 bus system.

- A variable delta control strategy and maximum power limitation method were used to control wind output. The data from this study was used to show that wind control can benefit the power grid by reducing regulation requirements.

**Brookhaven National Lab** June 2011 - Aug 2011

**Undergraduate Researcher**

*Upton, NY*

- Analyzed the magnetization of superconductors in regards to superconducting wire applications.
- Evaluated the effectiveness of the single-crystalline Iron-based superconductors for energy storage applications.
- Although the results showed that currently the cost of keeping the FeTe1-xSex superconductor at a low temperature outweighed the benefits of integrating it into the industry, in collaboration with a team, determined that this material is still a candidate for superconducting wire development in the future.

**NC A&T Semiconductor Research Corp. (SRC) and Louis Stokes Alliances for Minority Participation (LSAMP) Program** Jan 2011 - May 2014

**Research Assistant**

*Greensboro, NC*

- Project 1: Constructed a Radio Jove satellite, which allowed physics students to interpret data from the sun and experience a practical application of physics.
- Project 2: Analyzed the superconducting properties of various metals. Continued this work during the summer of 2011 at Brookhaven National Lab.

**Historic Royal Palaces** Feb 2015 - Apr 2015

**Intern**

*Belfast, Northern Ireland*

- Investigated and documented the current levels of energy usage at Hillsborough Castle.
- Determined ways that the Hillsborough Castle location can reduce their energy usage in the future, and presented finding to the company.
- Performed a cost benefit analysis to aid in the decision of whether or not to purchase new biomass boilers to meet future energy needs.

**ExxonMobil** Aug 2013 - Dec 2013

**Co-Op Student**

*Houston, Texas*

- Led the project development of a space heater surveillance system for SYU transformers.
- Designed an implementation plan to install permanent space heater circuits in four transformer units.
- During internship experience, developed knowledge of power systems equipment, and the role this plays in power system reliability. Supported California and King Ranch assets.

## EDUCATION

**PhD, Industrial Engineering** GPA: 3.93 May 2019

*University of Massachusetts, Amherst, MA*

*Dissertation Title: Power System Planning in Disparate Systems: Modeling Sustainability and Electricity Access*

**Master of Science, Leadership for Sustainable Development** GPA: 3.84 equivalent Dec 2015

*Queen's University of Belfast, Belfast, Northern Ireland*

**Bachelor of Science**, GPA: 4.0 May 2014
**Electrical Engineering &Applied Mathematics** *(Dual- Degree)*
*North Carolina A&T State University, Greensboro, NC*

## HONORS AND AWARDS

2022

- INFORMS MIF Early Career Award - Honorable mention
- INFORMS MIF Best Paper Award - Finalist
- Information Technology and Innovation Foundation (ITIF) Climate-Tech Policy "Boot Camp" Selected Participant

2021

- Wimmer Faculty Teaching Fellow – Carnegie Mellon University

2020

- National Academies of Engineering (NAE) US Frontiers of Engineering (FOE) Symposium Participant
- INFORMS Minority Issue Forum – Best Paper Competition - Finalist for my paper "Changing the Policy Paradigm: A Benefit Maximization Approach to Electricity Planning in Developing Countries"

2019

- Diversity Equity and Inclusion Award – University of Massachusetts Amherst, College of Engineering
- 3 Minute Thesis Community Choice Award 2019 – University of Massachusetts Amherst
- Minority Issues Forum Poster Competition Winner, INFORMS

2018

- NSF ACADEME Fellow and Travel Grant Recipient 2018 – University Consortium
- Ford Foundation Doctoral Fellowship 2018 – Honorable Mention

2017

- Minority Issues Forum Travel Support Award 2017 - INFORMS
- Student Analytics Glossary Competition 2017 - Lone Star Analysis
- 3 Minute Thesis Audience Choice Award 2017 – University of Massachusetts Amherst

2015

- NSF Sponsored Wind Energy IGERT Fellowship 2015-2018
- Ford Foundation Predoctoral Fellowship 2015 (awarded but declined due to receiving NSF GRFP)
- Northeast Alliance for Graduate Education and the Professoriate (NEAGAP) Program Fellow 2015-2018

2014

- NSF Graduate Research Fellowship (NSF GRFP) Awardee 2014 – 2019
- Mitchell Scholar Class of 2015 – US Ireland Alliance

## PEER REVIEWED JOURNAL PUBLICATIONS

1) Hanig, L., Harper, C., & Nock, D. (2023). COVID-19 public transit precautions: Trade-offs between risk reduction and costs. Transportation Research Interdisciplinary Perspectives, 100762.
2) Janicke, L., Nock, D., Surana, K., & Jordaan, S. M. (2023). Air pollution co-benefits from strengthening electric

transmission and distribution systems. Energy, 126735.
3) Rocco, C. M., Nock, D., & Barker, K. (2023). A Fairness-Based Approach to Network Restoration. IEEE Transactions on Systems, Man, and Cybernetics: Systems.
4) Goforth, T., & Nock, D. (2022). Air pollution disparities and equality assessments of US national decarbonization strategies. Nature Communications, 13(1), 7488.
5) Jordaan, S. M., Ruttinger, A. W., Surana, K., Nock, D., Miller, S. M., & Ravikumar, A. P. (2022). Global mitigation opportunities for the life cycle of natural gas-fired power. Nature Climate Change, 12(11), 1059-1067.
6) Cong, S., Nock, D., Qiu, Y. L., & Xing, B. (2022). Unveiling hidden energy poverty using the energy equity gap. Nature Communications, 13(1), 1-12. https://doi.org/10.1038/s41467-022-30146-5
7) Marcy, C., Goforth, T., Nock, D., & Brown, M. (2022). Comparison of temporal resolution selection approaches in energy systems models. Energy, 251, 123969.
8) Bozeman III, J. F., Nobler, E., & Nock, D. (2022). A Path Toward Systemic Equity in Life Cycle Assessment and Decision-Making: Standardizing Sociodemographic Data Practices. Environmental Engineering Science.
9) Sackey, C. V. H., Levin, T., & Nock, D. (2022). Latent demand for electricity in sub-Saharan Africa: a review. Environmental Research: Infrastructure and Sustainability.
10) Sackey, C. V. H., & Nock, D. (2022). The need for agricultural productive uses in the national electrification plan of sub-Saharan African countries–a call to action for Ethiopia. Environmental Research: Infrastructure and Sustainability.
11) Akbas, B., Kocaman, A. S., Nock, D., & Trotter, P. A. (2022). Rural electrification: An overview of optimization methods. Renewable and Sustainable Energy Reviews, 156, 111935.
12) Ku, A. L., Qiu, Y. L., Lou, J., Nock, D., & Xing, B. (2022). Changes in hourly electricity consumption under COVID mandates: A glance to future hourly residential power consumption pattern with remote work in Arizona. Applied Energy, 310, 118539.
13) Lou, J., Qiu, Y. L., Ku, A. L., Nock, D., & Xing, B. (2021). Inequitable and heterogeneous impacts on electricity consumption from COVID-19 mitigation measures. Iscience, 24(11), 103231.
14) Pfeiffer, Olivia, Destenie Nock, Erin Baker. (2021) Wind energy's bycatch: Offshore wind deployment impacts on hydropower operation and migratory fish. Renewable and Sustainable Energy Reviews. https://doi.org/10.1016/j.rser.2021.110885
15) Baker E, Nock D, Levin T, Atarah S, Afful-Dadzie A, Dodoo-Ahrin D, Ndikumana L, Shittu E, Muchapondwa E, Van-Hein Sackey C. (2021)Who is marginalized in energy justice? Amplifying community leader perspectives of energy transitions in Ghana. Energy Research and Social Science. https://doi.org/10.1016/j.erss.2021.101933
16) DeCarolis, Joseph F., Paulina Jaramillo, Jeremiah X. Johnson, David L. McCollum, Evelina Trutnevyte, David C. Daniels, Gökçe Akın-Olçum et al. (2020). "Leveraging open-source tools for collaborative macro-energy system modeling efforts." Joule. https://doi.org/10.1016/j.joule.2020.11.002
17) Nock, Destenie. (2020) " 'Let's Bid!' - A modular activity to promote interest in engineering economy." The Engineering Economist. DOI: 10.1080/0013791X.2020.1745977
18) Nock, Destenie, Todd Levin, Erin Baker. (2020) "Changing the Policy Paradigm: A Benefit Maximization Approach to Electricity Planning in Developing Countries." Applied Energy. DOI: https://doi.org/10.1016/j.apenergy.2020.114583
19) Nock, Destenie, Erin Baker. (2019) "Holistic multi-criteria decision analysis evaluation of sustainable electric generation portfolios: New England Case Study." Applied Energy. DOI: https://doi.org/10.1016/j.apenergy.2019.03.019
20) Nock, Destenie, Erin Baker. (2017) " Unintended Consequences of Northern Ireland's Renewable Obligation Credit Policy." Electricity Journal. DOI: https://doi.org/10.1016/j.tej.2017.07.002
21) Nock, Destenie, Venkat Krishnan, and James D. McCalley. (2014) "Dispatching intermittent wind resources for ancillary services via wind control and its impact on power system economics." Renewable Energy. 71: 396-400. DOI: https://doi.org/10.1016/j.renene.2014.05.058

**OTHER PUBLICATIONS and COMMENTARIES**

1) Hanna, R., Dugoua, E., Nuñez-Jimenez, A., Nock, D., Arcusa, S., Castellanos, S., ... & Zhu, Q. (2022). Support for climate policy researchers. Science, 378(6625), 1181-1181.
2) Mulugetta, Y., Sokona, Y., Trotter, P. A., Fankhauser, S., Omukuti, J., Somavilla Croxatto, L., ... & Yussuff, A. (2022). Africa needs context-relevant evidence to shape its clean energy future. Nature Energy, 7(11), 1015-1022.
3) Ravikumar, A. P., Baker, E., Bates, A., Nock, D., Venkataraman, D., Johnson, T., ... & Tuominen, M. (2022). Enabling an equitable energy transition through inclusive research. Nature Energy, 1-4.
4) Goodwill, J. E., Ray, P., Nock, D., & Miller, C. M. (2022). Emerging investigator series: moving beyond resilience by considering antifragility in potable water systems. Environmental Science: Water Research & Technology, 8(1), 8-21.
5) Nock, D. (2021). Closing the void in energy planning modeling: Integrating local realities. Joule, 5(5), 1031-1033.
2) Armanios, D. E., Christian, S. J., Rooney, A. F., McElwee, M. L., Moore, J. D., Nock, D., ... & Wang, G. J. (2021, July). Diversity, Equity, and Inclusion in Civil and Environmental Engineering Education: Social Justice in a Changing Climate. In 2021 ASEE Virtual Annual Conference Content Access.
3) Nock, D. (2020). To PhD or Not to PhD?. Journal-American Water Works Association, 112(10), 69-71.
4) Bottomley, Kevin, et al. "Crafting Community and Change through Books and Pads: The Tikondwe Teachers Project in Domasi, Malawi." Grassroots Leadership and the Arts for Social Change. Emerald Publishing Limited, 2017. 263-280. Print. Building Leadership Bridges.
5) Nock, Destenie, et al. "Honors Privatization: A Professor's and Three Students' Responses." Journal of the National Collegiate Honors Council 15.1 (2014): 49

**BOOK CHAPTERS**

1) Abiodun, K., Gautam, A., Newman, A., Nock, D., & Pandey, A. (2022). The Role of Microgrids in Advancing Energy Equity Through Access and Resilience. In Tutorials in Operations Research: Emerging and Impactful Topics in Operations (pp. 175-190). INFORMS.
2) Bottomley, Kevin, et al. "Crafting Community and Change through Books and Pads: The Tikondwe Teachers Project in Domasi, Malawi." Grassroots Leadership and the Arts for Social Change. Emerald Publishing Limited, 2017. 263-280. Print. Building Leadership Bridges.

**RESEARCH FUNDING (Principal Investigator)**

1) Energy Insecurity and Disconnections. Alfred P. Sloan Foundation. PI: Destenie Nock, co-PIs: Gabriel Chan, Yueming (Lucy) Qiu, David Konisky, Amritanshu Pandey. June 2022 – May 2025, $589,799
2) Equity Effects of Rare Events on Transportation Network Company and Transit Riders. Mobility 21. PI: Destenie Nock, co-PIs: Corey Harper, Alex Davis, Jeremy Michalek. July 2022 – June 2023, $100,000
3) Disaster Recovery and Response Innovation through Fuel Cell Deployment - National Science Foundation – CMMI - PI: Destenie Nock, co-PIs: Alexandra Newman, Alexana Cranmer – Grant Number 2053856 [$399,997] January 2022 – December 2023
4) EAGER: SAI: New Decision Paradigms by Integrating Utility Theory into Infrastructure Investments - National Science Foundation - PI: Destenie Nock, co-PIs: Alexis Davis, Daniel Armanios – Grant Number 2121730 [$299,954] September 2021 - 2023
5) Characterizing Energy Equity in the United States - Google Award for Inclusion Research (AIR) program– PIs: Destenie Nock and Costa Samaras [$60,000] August 2020 – July 2021:
6) Designing better autonomous-transit systems for enhanced workforce resilience - Block Center Grant – PIs: Destenie Nock and Corey Harper [$60,000] – August 2020 – July 2021
7) Equity and Sustainability: A framework for Equitable Energy Transition Analyses - National Science

Foundation – Environmental Sustainability - PI: Destenie Nock – Grant Number 2017789 [$399,915] July 2020 - 2023

**RESEARCH FUNDING (co-Principal Investigator)**

1) Active preference learning to aid public decisions. PI: Alex Davis, co-PI: Destenie Nock [$400,288]. National Science Foundation – Decision, Risk and Management Sciences. June 2021 – May 2024
2) Ridehailing Service Equity in Normal and Rare Conditions - Mobility21 BIG IDEA – PI: Jeremy Michalek co-PI: Destenie Nock, Daniel Armanios, Alex Davis [$821,976] January 2021 – June 2022
3) RAPID: Coronavirus, new patterns in electricity demand, and energy inequality (co-PI) - National Science Foundation - EPCN-Energy-Power-Control-Networks – PI: Yueming Lucy Qiu, co-PI: Destenie Nock – Grant Number 2029511 [$199,996] June 2020 – May 2021
4) Sustainability and Electricity Access in Developing Countries (co-PI) – Worldwide Universities Network (WUN) Seed Grant – PI: Erin Baker, Co-PIs: Destenie Nock, Leonce Ndikumana, Samual Atarah, David Dodoo Arhin, Anthony Afful-Dadzie, Julius Mwabora, Justus Simiyu, Todd Levin [$30,000] Dec 2018 – Dec 2019

**CONFERENCE PRESENTATIONS AND INVITED TALKS**

1. “Energy Limiting Behavior a Hidden Form of Energy Poverty,” Operations Research Program Seminar Series, North Carolina State University. Raleigh, North Carolina. November 28, 2022
2. “Unveiling Hidden Energy Poverty.” Climate and Health Lecture Series. Mailman School of Public Health at Columbia University, NY. November 16, 2022
3. “An Equitable Energy Transition and Considerations for Planning” Center on Global Energy Policy at Columbia University, NY. November 15, 2022 “Energy Limiting Behavior a Hidden Form of Energy Poverty,” Operations Research Program Seminar Series, North Carolina State University. Raleigh, North Carolina. November 28, 2022
4. “Unveiling Hidden Energy Poverty.” Climate and Health Lecture Series. Mailman School of Public Health at Columbia University, NY. November 16, 2022
5. “An Equitable Energy Transition and Considerations for Planning” Center on Global Energy Policy at Columbia University, NY. November 15, 2022
6. “Energy Limiting Behavior a Hidden Form of Energy Poverty,” Energy Policy Seminar Series, Harvard Kennedy School. Cambridge, MA. April 11, 2022
7. "PLENARY PANEL: Facilitating a Just Energy Transition," MIT Energy Conference. Boston, MA. March 31, 2022
8. "Decarbonization and Electrification: Understanding Demand in Vulnerable Groups," "Net-zero & Beyond: Pathways to Decarbonization" organized by Cell Press and the Beijing Municipal Science & Technology Commission, Virtual, March 28, 2022. 40,000 – 70,000 Attendees.
9. "Intersections between sustainable energy and computing," University of Wisconsin Madison Energy Institute, Wisconsin (Virtual), February 22, 2022.
10. "Low-carbon energy transitions: Understanding trade-offs between sustainability and equality," Center for Sustainable Systems Forum series, University of Michigan, February 18, 2022.
11. "Energy Poverty: Measuring and Planning," Indiana University, Bloomington, Indiana, October 21, 2021.
12. "The Energy Equity Gap: Unveiling Hidden Energy Poverty," University of California at Davis Energy Graduate Group Seminar, Virtual, October 1, 2021.
13. "Low-carbon energy transitions: a systemic approach to quantifying equality and sustainability trade-offs," University of Oklahoma, Norman, OK, September 24, 2021.
14. "Just Transition: What will it take and can it be done?," Institute for New Economic Thinking (INET), Virtual, September 22, 2021.

15. "Modeling for Energy Justice: Incorporating Metrics and Considerations into Decarbonization Models," Virtual Modeling & Policy Technical Workshop - EPRI Equitable Decarbonization Interest Group, Virtual at Electric Power and Research Institute (EPRI), August 27, 2021.
16. "Keynote: Low-carbon energy transitions: a systemic approach to quantifying equity and sustainability trade-offs," Applied Energy Symposium: MIT A+B, MIT: Cambridge, MA, August 11, 2021.
17. "Balancing cost, sustainability, and distributional equity for a just transition," New Approaches to a Just Transition at the Institute for Social Science Research – University of Dundee, Nethergate, Dundee (Scotland Virtual), June 25, 2021.
18. "Keynote Speaker: Knowledge and Power," The Chemours Company, Virtual, June 18, 2021.
19. "The Energy Equity Gap: Unveiling Hidden Energy Poverty," University of California Irvine Initiative called Solutions that Scale, Virtual, June 17, 2021.
20. "Energy Poverty: Measuring and Planning," Research Workshop on Energy Insecurity and Utility Disconnections at Indiana University O'Neill School of Public and Environmental Affairs, Indiana University (Virtual), May 24, 2021.
21. "Low-carbon energy transitions: Understanding trade-offs between sustainability and equity," University of Washington: Clean Energy Leadership Institute., Seattle, WA, May 13, 2021.
22. "The Energy Equity Gap: Unveiling Hidden Energy Poverty," Carnegie Mellon University - EPP Faculty Seminar series, Pittsburgh, PA, May 11, 2021.
23. "The Role of Research in Advancing Equity in the Energy Sector," IEEE Women in Engineering Leadership Conference, Virtual, April 30, 2021.
24. "Unveiling Hidden Energy Poverty through Novel Algorithms," Carnegie Mellon University College of Engineering, Virtual (Pittsburgh), April 15, 2021.
25. "Integrating Social Justice into Engineering Models," National Renewable Energy Laboratory, Virtual, April 14, 2021.
26. "Sustainable and Equitable Energy Transitions" 2021 Maine School of Economics, Virtual, 4/9/2021
27. "The Energy Table: Who Didn't Get a Seat?" Carnegie Mellon Civil and Environmental Engineering Social Justice & Engineering E-Series, Pittsburgh, PA, 3/11/2021
28. "Hidden Energy Poverty," Presentation within session titled "Multidimensional Challenges of Energy Justice: Finding Global Synergy in Energy System," 2021 International Association for Energy Economics, Webinar, Virtual, 3/1/2021
29. "Energy Poverty: Measuring and Planning," 2021 Black History Month Diversity and Research Seminar, Diversity, Equity & Inclusion (DEI) Council's Task Force, Brattle Consulting Group, Virtual, 2/25/2021
30. "Energy Poverty: Measuring and Planning," 2021 ERE & Initiative for Sustainable Energy Policy (ISEP) Webinar Series Vol. 16, John Hopkins University, Virtual, 2/23/2021
31. "Equity and Sustainability: A Framework for Equitable Energy Transition Analyses." Socioresilient Infrastructure: Materials, Assemblages, and Systems Workshop. Virtual. MIT. September 2020
32. "Energy Transitions: Understanding trade-offs between sustainability and equality objectives," 2021 Energy Club Talk, North Carolina State, Virtual, 6/26/2020
33. "Integrating Stakeholder Preferences into Generation Expansion Planning,"1st Online Lightning Talk Mini-workshop, OpenMod, Virtual Workshop. 3/26/2020. https://forum.openmod.org/t/1st-online-lightning-talk-mini-workshop-26-march-2020/1967

**TEACHING**

- **Civil Systems Investment Planning and Pricing** (CMU CEE 12-706) – Graduate Class - Economic decision analysis

class which equips students with the tools to incorporate uncertainty and economic factors into their decision making. In the Fall of 2020 I revamped the class by designing the course around social justice (i.e. immigration policy, mass incarceration, and environmental justice). My additions provided students with insights regarding how to build models which evaluate economic and social justice factors.

**MENTORING AND ADVISING**

**PhD Students**

- **Jaih Hunter-Hill** (Fall 2022 – Present) – Energy usage disparities across regions
- **Christine Cao** (Fall 2021 – Present) – Actively learning group preferences using machine learning methods
- **Arnav Gautam**(Fall 2021 – Present) – The equity and sustainability trade-offs of resilience hubs
- **Akua McLeod** (Fall 2021 – Present) – The distributional impacts of energy outages and disconnections
- **Carlos Mateo Lecanzo Samudio** (Spring 2021 – Present) – Online food delivery impacts on the transportation system.
- **Teagan Goforth** (Fall 2020 – Present) – Sustainable and Equitable energy transitions in the US
    - Best Student Presentation Award – Macro-Energy Systems Conference 2022 for presentation and poster titled "Inequality in energy transitions: Subnational air pollution disparities resulting from national decarbonization strategies" – Stanford, CA
    - Outstanding Student Presentation Award – AGU Fall Meeting 2021 – Presented by the Global Environmental Change Section for presentation titled "Low-Carbon Energy Transitions: A Systematic Approach to Quantifying Equity and Sustainability Trade-offs"
- **Lily Hanig** (Fall 2020 – Present) – COVID impacts on public transit systems
- **Shuchen Cong** (Spring 2020 – Present) - Engineering and Public Policy graduate student developing an energy poverty metric which quantifies hidden energy poverty based on consumer electricity consumption profiles.
- **Anthony Reid** (Spring 2020 – Spring 2021) – Civil and Environmental Engineering PhD student working on food delivery traffic and CO2 emission impacts. Left the program with a MS.
- **Andrew Jones** (Spring 2020 – Present) – Civil and Environmental Engineering PhD student working on energy equity and climate change mitigation.
- **Charles Van-Hein Sackey** (Fall 2019 – Present) – Engineering and Public Policy PhD student working on energy expansion in Sub-Saharan Africa.
    - First place in Scott Institute Energy Week 2020 poster competition for poster titled "Equitable Electricity System Planning in Developing Countries"

**Master's Students**

- Erin Percevault (CEE), "Downscaling power plant emissions to the local level," Fall 2021 – Spring 2022
- Nicholas Ross(CEE), "Analysis for Large Penetration of Residential Solar," Spring 2021
- Yuchen Lu (CEE), "Equity Trade-offs in Developing Country Power System investments under varying preference functions," Summer and Fall 2020
- Ali Iftikhar (Heinz), "Regression analysis of COVID-19 Impacts on Energy Consumption," Summer and Fall 2020
- Clare Callahan (Heinz), "A Synthesis of Energy Equity Metrics, and Survey Design for COVID Impacts," Summer 2020
- Ruisa Hinds (CEE), "COVID impacts on essential worker transit populations," Summer 2020
- Shuwei He (CEE), "Optimizing the Food Distribution System," Summer 2020
- Shuchen Cong (EPP), "Emissions in the Pittsburgh Food System," Spring 2020

**Undergraduate Students**

- Lauren Janicke, (June 2020 – Present) Developing a model for assessing the air pollutant and CO2 emissions of USA and global power systems.
- Shria Shyam, (September 2021 - May 2022) Investigating how students value energy equality in energy projects
- Minji Kwon, (June 2021 - Present) Energy poverty analysis, analyzing the degrees of forgone comfort in low income households.
- Charlotte Ng, (June 2021 – August 2021) COVID energy poverty survey analysis.
- Skylar McAuliffe (August 2021 - May 2022) Trade-off analysis for sustainable energy transitions
- Sarah Hamilton (Fall 2020 – Spring 2021) – Quantifying GHG emissions of urban food sectors
- Emma Reed (Summer 2020) - Africa energy transitions and regression analysis for CO2 emissions and human development.
- Brian Lee (Summer 2020) – Food delivery trends in urban environments
- Mahalina Lacheta (Summer 2020) – Food consumption needs in the Pittsburgh region
- Teagan Goforth (Spring 2020) - Cost analysis for building a large-scale battery train
- Quinton Thomas (Spring 2020) – Utility scale battery options for building a large-scale battery train.
- Olivia Pfeiffer (Spring 2017 – Spring 2019) – Wind energy's bycatch: understanding the indirect impact of offshore wind
- Ami Khalsa (Fall 2017 – Spring 2019)– The value of pumped hydro storage in a high renewable future
- Ivan Norman (Fall 2017 - Spring 2019) – Decision analysis for electricity portfolios in New England
- Tristan Koopman (Fall 2017 – Spring 2018) – Pumped hydro storage modeling and analysis in the New England region
- Richard Anonyai (Summer 2018) – Natural gas impacts on the New England Electricity Sector
- Jacob Davis (Spring 2017)– Data analysis for wind energy in New England
- Ambar Garcia (Summer 2016) – Developed model for estimating electricity demand for UMass REU

**Thesis Committees Served On**

- Lucas Dennin – Department of Engineering & Public Policy
- Carlos Hernandez - Department of Civil and Environmental Engineering
- Lynn Kirabo - Human-Computer Interaction Institute

## MEDIA CONTRIBUTIONS AND PUBLIC ENGAGEMENT

2022

- "Taking Into Context Africa's Energy, Climate and Economic Needs." Columbia Energy Exchange Podcast. November 15, 2022. https://podcasts.apple.com/my/podcast/taking-into-context-africas-energy-climate-and/id1081481629?i=1000586321794
- "Energy Costs, Poverty, and Race: A Conversation with Destenie Nock." Peoples & Things Podcast. Hosted by Lee Vinsel. October 3, 2022 https://anchor.fm/peoplesandthings/episodes/Destenie-Nock-on-Hidden-Energy-Poverty-e1o98di
- "Happy Earth Day: Why a Low Carbon Life is Within Reach." The Energy Gang Podcast. April 22, 2022. https://www.woodmac.com/news/opinion/happy-earth-day-why-a-low-carbon-life-is-within-reach/
- "Energy Poverty and Energy Insecurity with Destenie Nock." Just Energy Podcast. March 12, 2022. https://open.spotify.com/episode/7Jpo6qwYZwUtrHgYr6DGmZ?si=4a7a74a8b9ae4b9f

2021

- "Tracking the Equity Outcome of Decarbonization" The Energy Gang Podcast. July 16, 2021.

https://www.greentechmedia.com/articles/read/tracking-the-equity-outcome-of-decarbonization

- "Why the Rules Matter." The Big Switch Podcast. July 6, 2021. https://open.spotify.com/episode/79kq8b1K9Wpj5AbSuKnA5u
- Teirstein, Zoya. "Biden's Treacherous Path to 100% Clean Energy Just Got a Little Easier." Grist, 4 Feb. 2021.
- "How The U.S. Can Build a 100% Clean Grid." CNBC. Featured Speaker. YouTube. January 27, 2021. https://www.youtube.com/watch?v=4KJE3POgWSc&feature=emb_title
- "Energy Wizard Chat with Dr. Nock." Isn't That Something. YouTube. https://www.youtube.com/watch?v=npbyERUlbjA

2017

- Kuras, Evan. Destenie Nock, Avelino Amado. "Budget Cuts threaten the community work of graduate students." May 31, 2017. Boston Globe. http://www.bostonglobe.com/opinion/2017/05/31/budget-cuts-threaten-community-work-graduate-students/AN0thJ3rixdnSjOW4zehPI/story.html

**SERVICE**

Professional Societies

- INFORMS Undergraduate Research Prize Committee 2020 - 2021

Journal Reviewer

- Nature Communications, Journal of Cleaner Production, Applied Energy, Renewable and Sustainable Energy Reviews

Proposal Reviewer

- National Science Foundation Ad- Hoc and Panel 2020
- National Science Foundation GRFP 2021