Nicole D. Jackson, Ph.D.
Principal Member of the Technical Staff
Sandia National Laboratories

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Education

Ph.D. Civil Engineering, University of Illinois at Urbana-Champaign 2020
Advisor: Megan Konar; Committee: Kathy Baylis, Ximing Cai, and Peter Debaere (Univ. of Virginia)
Dissertation: *From Global to Local: Understanding Linkages Between Climate Shocks and Food Security*

M.S. Materials Science & Engineering, University of Illinois at Urbana-Champaign 2014

M.S. Engineering Mechanics, Virginia Tech 2008
Advisor: Scott Case; Committee: Jack Lesko and Carin Roberts-Wollmann
Thesis: *Reliability-based Durability Assessment of GFRP Bars for Reinforced Concrete*

B.S. Civil Engineering, Univeristy of Illinois at Urbana-Champaign 2005
Minor in International Engineering – Germanic Studies

Professional and Research Appointments

Sandia National Laboratories – Climate Security Center, Albuquerque, NM
Energy Water Systems Integration Department
Principal Member of the Technical Staff 04/2025 – Present
Senior Member of the Technical Staff 07/2021 – 04/2025
Postdoctoral Appointee (Mentors: Thushara Gunda, Andrea Staid, Vince Tidwell) 11/2019 – 07/2021

University of Illinois at Urbana-Champaign, Urbana, IL
Graduate Research Assistant 01/2019 – 08/2019
Department of Bioengineering, Karin Jensen Research Group

University of Illinois at Urbana-Champaign
Graduate Research Assistant 08/2014 – 11/2019
Department of Civil & Environmental Engineering, Megan Konar Research Group

U.S. Environmental Protection Agency, Cincinnati, OH
Physical Sciences Trainee 06/2014 – 02/2016
Land Remediation and Pollution Control Division

University of Illinois at Urbana-Champaign
Project Manager 08/2013 – 08/2013
Learning-in-Community: Haiti Infrastructure and Development

University of Illinois at Urbana-Champaign
Graduate Research Assistant 08/2008 – 04/2010
Department of Civil & Environmental Engineering, John S. Popovics Research Group

Virginia Tech
Graduate Research Assistant 01/2007 – 08/2007
Department of Engineering Science & Mechanics, Materials Research Group 08/2004 - 12/2005

University of Illinois at Urbana-Champaign
Undergraduate Research Assistant 05/2003 – 08/2003
Department of Civil & Environmental Engineering, John S. Popovics Research Group

Arizona State University
Undergraduate Research Assistant 06/2002 – 08/2002
Del E. Webb School of Construction, Christine Fiori Research Group

Honors and Awards

Sandia National Laboratories Thunderbird Kudos for supporting UIUC Spring 2025 weSTEM Conference 2025
Recognition for supporting Sandia's sponsorship and engagement with the Univerisity of Illinois' GradSWE chapter event: weSTEM 2025

Sandia National Laboratories Thunderbird Kudos for START HBCU Intern Mentoring 2024
Recognition for dedication and mentoring of Security top Academic Research & Talent at Historically Black Colleges and Universities Program (START HBCU) institute interns

Most Promising Engineer in Industry Award 2024
Nationally competitive recognition of demonstrated tremendous potential for future technical contributions. Sponsored by the Black Engineer of the Year Awards.

Sandia National Laboratories Spot Award for Strong Teaming in Hydropower 2022
Recognition for strong teaming with the Water Power Program and developing a valuable hydropower proposal with Idaho National Laboratory

MGB-SIAM Early Career (MSEC) Fellow 2022-2024
1 of 10 early career professionals selected for inaugural class of fellows. Jointly sponsored by the Society for Industrial and Applied Mathematics and Mathematically Gifted & Black

Bay Area Research Slam Finalist 2021
1 of 3 Sandia postdocs in a research competition sponsored by Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, Sandia National Laboratories, and SLAC National Accelerator Laboratory

Sandia National Laboratories Thunderbird Kudos for presentation to the EGCoP 2025
Recognition for giving a technical presentation to Sandia's Electric Grid Communication of Practice

Sandia National Laboratories Postdoctoral Technical Showcase Third Place 2020
Recognition from the Sandia Postdoctoral Association

Rising Stars in Civil & Environmental Engineering Participant 2019
1 of 20 early career women competitively chosen for a workshop on careers in academia at the Massachusetts Institute of Technology

Academic Leadership for Women in Engineering Travel Grant Recipient ($2000) 2018
Sponsored by the Society of Women Engineers

List of Teachers Ranked as Excellent with Outstanding Ranking (x2) 2018

Recognition at University of Illinois at Urbana-Champaign based on student course evaluations

Diversifying Faculty in Higher Education in Illinois Fellowship ($30,000) 2017 – 2019
Tuition and stipend provided by the State of Illinois

Mavis Future Faculty Fellowship ($2000) 2017 – 2018
Fellowship from the University of Illinois at Urbana-Champaign College of Engineering

Congressional Visit Days Participant 2017
1 of 2 members sponsored by the American Geophysical Union to engage with Illinois congressional staff members to advocate for federal funding of scientific research

Fall Conference Travel Grant Recipient ($425) 2016
Sponsored by University of Illinois at Urbana-Champaign Graduate College and Department of Civil & Environmental Engineering

Fall Conference Travel Grant Recipient ($425) 2015
Sponsored by University of Illinois at Urbana-Champaign Graduate College and Department of Civil & Environmental Engineering

List of Teachers Ranked as Excellent 2014
Recognition at University of Illinois at Urbana-Champaign based on student course evaluations

Support for Under-represented Groups in Engineering (SURGE) Fellowship ($22,000) 2008 – 2009
Tuition and stipend from the University of Illinois at Urbana-Champaign College of Engineering

Summer Pre-doctoral Institute Fellow ($2500) 2008
Summer stipend and housing allowance from the University of Illinois at Urbana-Champaign Graduate College

Integrative Graduate Education and Research Trainee in Macromolecules ($30,000) 2004 – 2005
Tuition and stipend provided by the National Science Foundation and Virginia Tech

Research Grants

⇒ **Total grant funding**: $12,633,353 (Funds managed by N.D. Jackson: $3,899,289)

"Integrating Long-Duration Energy Storage into Planning, Markets, and Operations" 2025-2027
Role: **Task Lead** for Weather Statistics and Markov Modeling with PI Ralph Masiello (Quanta Technologies)
Sponsor: U.S. Department of Energy Grid Deployment Office $1,500,000

"Security Solar Technologies through Optimization, Resilience and Modeled Systems" (STORMS) 2024-2026
Role: **Senior Personnel** with PI Laurie Burnham (Sandia National Laboratories)
Sponsor: U.S. Department of Energy Solar Energy Technology Office $2,641,263

"Cyber Physical Hazard Oriented-Assessment of Natural-Events" (CyPHOON) 2024-2025
Role: **PI** with Institutional PI Andrea Staid (EPRI)
Sponsor: U.S. Department of Energy Office of Cybersecurity, Energy Security, and Emergency Response (CESER) $500,000

"Multi-hazard, Multi-objective, Multi-investment Optimal Transmission Infrastructure Expansion Planning for Natural Disaster Resilience" (3M) 2024-2027
Role: **Task Lead** for Compound Hazard Modeling with PI Kyle Skolfield (Sandia National Laboratories)
Sponsor: Sandia National Laboratories – Laboratory Directed Research & Development (LDRD) Resilient Energy Systems Investment Area $1,850,000

"Enhanced Prediction in Chaotic Systems with Physics-Learned Autonomous Neural Networks" (EPIC PLANN) 2023 – 2026
Role: **PI** with Institutional PI Louis Scuderi (University of New Mexico)
Sponsor: Sandia National Laboratories – Laboratory Directed Research & Development (LDRD) Earth Science Research Foundation Investment Area $1,439,000

"Water Management Project in Integrated Multisector Multiscale Modeling" (IM3) 2023 – 2025
Role: **Institutional PI** with PI Jennie Rice (Pacific Northwest National Laboratory)
Sponsor: U.S. Department of Energy Office of Science MultiSector Dynamics Program $500,000

Photovoltaic System Cost Benchmark 2023 – 2024
Role: **Senior Personnel** with PI Jennifer Braid (Sandia National Laboratories)
Sponsor: U.S. Department of Energy Solar Energy Technology Office $200,000

"Natural Disasters: Evaluating Impacts to Grid Resilience" 2023 – 2024
Role: **Co-Investigator** with PI Thushara Gunda (Sandia National Laboratories)
& Institutional PI Surya Dhulipala (National Renewable Energy Laboratory)
Sponsor: U.S. Department of Energy Solar Energy Technology Office $600,090

"Probabilistic Impact Scenarios for Extreme Weather Event Resilience" 2022–2024
Role: **Co-Project Lead** with Jean-Paul Watson (Lawrence Livermore National Laboratory), Roger Ghanem (University of Southern California), Cosmin Safta (Sandia), Emil Constantinescu (Argonne National Laboratory), Shinjae Yoo (Brookhaven National Laboratory, BNL), Aditi Krishnapriyan (Lawrence Berkeley National Laboratory), Xihaier Luo (BNL), Wei Xu (BNL)
Sponsor: U.S. Department of Energy's Scientific Discovery Through Advanced Computing $700,000

"Study of Straight-line Wind and Precipitation Hazard Return Periods Under Future Return Periods" 2022–2023
Role: **PI**
Sponsor: U.S. Department of Energy Nuclear Safety Research and Development Program (2022 EHSS-30 NSRD 100043) $273,000

"Completing the Feedback Loop: Linking Data, Operation and Maintenance, Manufacturers, and Insurance Markets" 2022 – 2025
Role: **Institutional PI** (Sandia National Laboratories) with PI Adam Shinn (kWh Analytics) and Institutional PI Andy Walker (National Renewable Energy Laboratory)
Sponsor: U.S. Department of Energy Solar Energy Technology Office (DE-EE0009827) $1,967,000

"Resilience of Global Chemical Facilities to Climate Change" 2022
Role: **Task Lead** for Characterization of Climate Risk with PI Andrew W. Nelson (Sandia National Laboratories) and Institutional PI Lina Sela (University of Texas at Austin)
Sponsor: Sandia National Laboratories – Climate Innovation Late Start LDRD $104,000

"Predictive Modeling of Weather Impacts on Utility-scale Photovoltaic Systems" 2022
Role: **PI**
Sponsor: Sandia National Laboratories – LDRD Exploratory Express $109,000

"FY22 Strategic Initiative: Climate Impacts on National Critical Infrastructure" (CINCI) 2021 – 2022
Role: **Senior Personnel** with PI Jon Zimmerman (Sandia National Laboratories)
Sponsor: Sandia National Laboratories $250,000

Peer-reviewed Publications

10 peer-reviewed publications including 4 as first author (Google Scholar Page)

J10. P.M. Johnson, **N.D. Jackson**, H. Baroud, and A. Staid. (2024) Can Socio-Economic Indicators of Vulnerability Help Predict Spatial Variations in the Duration and Severity of Power Outages Due to Tropical Cyclones? *Environmental Research Letters*, Vol 14, Issue 4, pp 044048 (paper) (data and code)

J9. K.L Bonney, T. Gunda, M. Mendoza, M.L. Hopwood, and **N.D. Jackson**. (2023). pvOps: a Python Package for Empirical Analysis of Photovoltaic Field Data, *Journal of Open Source Software* (paper) (software)

J8. S. Gilletly, **N.D. Jackson**, and A. Staid. (2023) Evaluating the Impact of Wildfire Smoke on Solar Photovoltaic Production, *Applied Energy* (paper) (data)

J7. **N.D. Jackson** and T. Gunda. (2021) Evaluation of Extreme Weather Impacts on Utility-scale Photovoltaic Plant Performance in the United States, *Applied Energy*, Vol 302, pp 117508 (paper) (data)

J6. **N.D. Jackson**, M. Konar, P. Debaere, and J. Sheffield. (2021) Crop-specific Exposure to Extreme Temperature and Moisture for the Globe for the Last Half Century, *Environmental Research Letters*, Vol 16, Issue 6, pp 064006 (paper) (data)

J5. R. von Gnechten, J. Wang, M. Konar, K. Baylis, P. Anderson, S. Giroux, **N.D. Jackson**, and T. Evans. (2020) A Gravity Model and Network Analysis of Household Food Sharing in Zambia, *Environmental Research Letters*, Vol 15, Issue 11, pp 115010 (paper)

J4. **N.D. Jackson**, M. Konar, P. Debaere, and L. Estes. (2019) Probabilistic Global Maps of Crop-Specific Areas from 1961 to 2014, *Environmental Research Letters*, Vol 14, Issue 9, pp 094023 (paper) (data)

J3. M. Niazi, C. Nietch, M. Maghrebi, **N.D. Jackson**, B.R. Bennett, M. Tryby, and A. Massoudieh. (2017) Storm Water Management Model: Performance Review and Gap Analysis, *Journal of Sustainable Water in the Built Environment*, Vol 3, Issue 2, pp 04017002 (paper)

J2. **N.D. Jackson**, M. Konar, and A.Y. Hoekstra. (2015) The Water Footprint of Food Aid, *Sustainability*, Vol 7, Issue 6, pp 6435-6456 (paper)

J1. J.S. Popovics, G.P. Cetrangolo, and **N.D. Jackson**. (2006) Experimental Investigation of Impact-Echo Method for Concrete Slab Thickness Measurement, *Journal of the Korean Society for Nondestructive Testing*, Vol 26, Issue 6, pp 427-439 (paper)

Manuscripts in Review and Revision

M4. R. Piansky, D.K. Molzahn, **N.D. Jackson**, and J. Kyle Skolfield. (*in press*) "Evaluating Undergrounding Decisions for Wildfire Ignition Risk Mitigation across Multiple Hazards"

M3. T. Gunda, A. Moore, **N.D. Jackson**, S.C. Dhulipala, and A. Awara. (*in review*) "A Resource Adequacy Assessment of Correlated Wide-Area Outages in the Power Grid"

M2. H.H. Bokhari, F. Corsi, A. Miara, B.M. Fekete, S. Gangrade, S. Kao, **N.D. Jackson**, C.J. Vörösmarty. (*in review*) "An Integrated Hydroclimatic Assessment of Future Reservoir and Hydropower Operations in the U.S."

M1. K.L. Bonney, T. Gunda, S.B. Ferencz, and **N.D. Jackson**. (*in review*) Emulation of Monthly Water Allocations Using LSTM Models: A Case Study of the Colorado River Basin in Texas

Conference Proceedings

C6. G. Zhao, X. Luo, S. Yoo, and **N.D. Jackson**. (2024) GAN-based Extreme Conditional Distribution Estimation for Renewable Energy Systems, *IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm)* (paper)

C5. R.M. Reck, Y. Li, S. Thompson, **N.D. Jackson**, and S. Debetwar. (2023) Preparing Women in STEM for Faculty Careers through a Job Search Workshop Series, *ASEE Annual Conference & Exposition, Conference Proceedings*, Baltimore, Maryland (paper)

C4. S. Gilletly, **N.D. Jackson**, and A. Staid. (2021) Quantifying Wildfire-Induced Impacts to Photovoltaic Energy Production in the Western United States, *48th IEEE Photovoltaic Specialists (PVSC)*, virtual (paper)

C3. **N.D. Jackson**, K.I. Tyler, Y. Li, W. Chen, C. Liu and R. Bhargava. (2017) Keeping Current: An Update on the Structure and Evaluation of a Program for Graduate Women Interested in Engineering Academia, *ASEE Annual Conference & Exposition, Conference Proceedings*, Dayton, Ohio (paper)

C2. K.I. Tyler, Y. Li, **N.D. Jackson**, W. Chen, C. Liu and R. Bhargava. (2017) Overcoming Difficulties in Research Statement Preparation for the Academic Job Search: Expansion of a Peer-Focused Professional Development Program, *ASEE Annual Conference & Exposition, Conference Proceedings*, Dayton, Ohio (paper)

C1. **N. Jackson**, Y. Malave, C.L. Roberts-Wollmann, S. Case, and J. Lesko (2005) Reliability-based Uniform Flexural Resistance Factors for GFRP Reinforced Concrete Members, *Third International Conference for Composites in Construction*, Lyon, France

National Laboratory Reports and White Papers

Note: These are reports published by the national laboratories and have undergone at least one round of internal peer review prior to publication. Reports without links are not publicly available and are for official use only.

R10. T. Gunda, R. Valdez, **N. Jackson**, R. Cooper, A. Sorensen, and E. Sproul. (2024) Historical and Future Extreme Weather Conditions: A Case Study of Southeast China Provinces, Sandia National Laboratories, SAND2024-15880

R9. T. Gunda, R. Valdez, **N. Jackson**, S. Price, and S. Goodnight. (2024) Potential Climate Change Impacts to Crop Production: Case Study of Rice and Winter Wheat in China, Sandia National Laboratories

R8. A. Walker, J. Desai, T. Gunda, and **N. Jackson**. (2023) Operation and Maintenance of PV Systems: Data Science, Analysis, and Standards, National Renewable Energy Laboratory, NREL/TP-5C00-85819 (report).

R7. T. Lowry, R. Garrett, T. Gunda, **N. Jackson**, K. Klise, C. Smallwood, K. Stamber, R. Taylor, S. Kuzio, and J. Zimmerman (2023) Climate Impacts on National Critical Infrastructure Strategic Initiative: A White Paper, Sandia National Laboratories.

R6. **N. Jackson**, T. Gunda, N. Gayoso, J. Desai, and A. Walker (2022) Operations, maintenance, and cost considerations for PV+ Storage in the United States, Sandia National Laboratories, SAND2022-16312 (report)

R5. A. Nelson, **N. Jackson**, J. Wingard, S. Paik, and T. Gunda (2022) Resilience of Global Chemical Facilities to Climate Change, Sandia National Laboratories, SAND2022-14347R

R4. **N. Jackson** and H. Mendoza (2022) Predictive Modeling of Weather Impacts on Utility-scale Photovoltaic Systems, Sandia National Laboratories, SAND2022-14215R

R3. A. Staid, E.S. Fleming, T. Gunda, and **N.D. Jackson** (2021) Critical Infrastructure Decision-Making Under Long-Term Climate Hazard Uncertainty: The Need for an Integrated, Multidisciplinary Approach, Sandia National Laboratories, SAND2021-11394 R (report)

R2. T. Gunda, **N.D. Jackson**, D. Sanchez, K. Klise, K. Ruehl, and S.Kuzio (2021) Advanced Data Analytics in Renewable Energy: Review of Capabilities, Needs, and Opportunities, Sandia National Laboratories, SAND2021-6297 R

R1. T. Gunda, A. Neal, P. Carlson, C. Richardson, J.A. Perez, M. Aamir, B. Anderson, and **N.D. Jackson** (2020) TAOS: A Tool for Assisting Organization Selections for Security Integrated Assessments', Sandia National Laboratories, SAND2020-10751

Invited Seminars & Presentations

26. Panelist, Industry Career Panel, Society for Industrial and Applied Mathematics Annual Meeting (AN24), Spokane, WA, July 2024.

25. Machine Learning for the Energy Sector: Predicting Impacts and Understanding System Behavior, Multi-Sector Dynamics Community of Practice – AI Working Group, Virtual, June 2024.

24. Panelist, Career Pathways for MPE Enthusiasts, Society for Industrial and Applied Mathematics Conference on the Mathematics of Planet Earth (MPE24), Portland, OR, June 2024.

23. Extreme Weather and Climate Impacts to Energy Infrastructure, Sandia National Laboratories/Los Alamos National Laboratory Climate Science Summit, Los Alamos, NM, May 2024.

22. Building Resilience for Critical Infrastructure: Case Studies in Solar, Cornell University, April 2024.

21. Plenary Speaker, Modeling Extreme Weather Impacts: Case Studies in Utility-scale Solar, Mathematics - Opportunities in Research and Education (MORE), Clemson University, Clemson, South Carolina, October 2023.

20. Probabilistic Impact Scenarios for Extreme Weather Event Resilience, SciDAC Principal Investigator Meeting, Rockville, MD, September 2023.

19. Panelist, Preparing for the Storm: Managing Operational Risk and Asset Protection in the Face of Extreme Weather, Large Scale Solar USA, Austin, TX, May 2023.

18. Straight-line Wind-based Hazard Analysis under Future Return Periods, EFCOG Nuclear & Facility Safety Annual Workshop, Albuquerque, NM, March 2023.

17. Extreme Weather Drivers during Power Outages & Equity Considerations for Future Grid Expansions Planning in the United States, Vanderbilt University, January 2023.

16. Extreme Weather Drivers during Power Outages in the United States, Cornell University, November 2022.

15. Projecting Water Scarcity Across Scales: Case Study of the Colorado River Basin, Sandia Loves Science, Virtual, October 2022.

14. Panelist, Powering Environmental Justice with Clean Energy, RE+ 2022, Anaheim, CA, September 2022.
13. Projecting Water Scarcity Across Scales: Case Study of the Colorado River Basin, Southern Plains Drought Early Warning System Partners Meeting, Virtual, August 2022.
12. Panelist, The Water, Climate, and Energy Nexus: Charting the Role of DOE's Technology Offices, Frontiers in Hydrology Workshop, Virtual, June 2022.
11. Extreme Weather Risk to PV Performance and Operations, Large Scale Solar, Austin, TX, June 2022.
10. PV+Storage Operations and Maintenance Considerations, PV Reliability Workshop, Virtual, Feburary 2022.
9. A Tale of Two Models: Projecting Water Scarcity for the Colorado River Basin, AGU Fall Meeting, Virtual, December 2021.
8. Panelist, PV Magazine Roundtables: Optimizing systems and hardware to meet environmental and performance challenges, Virtual, November 2021.
7. Estimating Weather Impacts on Utility-Scale Photovoltaic Plant Performance, Bay Area Research Slam 2021, Virtual, October 2021.
6. Weather Impacts On Utility-Scale Photovoltaic Plant Performance, Materials and Structural Systems Division, National Institute of Standards and Technology, Virtual, October 2020.
5. Reusing Operations & Maintenance Records: Moving from Reactive to Proactive Management of Solar Photovoltaic Sites, Sandia National Laboratories Emeritus Meeting Early-Career Technical Showcase, Albuquerque, NM, March 2020.
4. Multi-Site Assessment of Extreme Weather Impacts on PV Plant Performance and Reliability, PV Reliability Workshop. Lakewood, CO, February 2020.
3. Climate Shocks, Agriculture and Trade, Civil and Environmental Engineering Department, Massachusetts Institute of Technology, October 2019.
2. Global Gridded Crop Specific Agricultural Areas from 1961-2014, Civil, Materials, and Environmental Engineering Department, University of Illinois at Chicago, February 2019.
1. Global Gridded Crop Specific Agricultural Areas from 1961-2014, Energy Water Systems Integration Department, Sandia National Laboratories, January 2019.

Invited Workshop Participation

4. US Department of Energy/Office of Science/Biological and Environmental Research Workshop for Accelerating AI for (EESM) modeling, College Park, Maryland, 13 December 2024
3. US Department of Energy/Office of Science/Biological and Environmental Research Roundtable for Fundamental Energy Research Enabled by Artificial Intelligence, Gaithersburg, Maryland, 7-8 November 2024
2. Integrated Hydro-Terrestrial Modeling (IHTM) 2.0, Reston, Virginia, 31 October 2023 - 02 November 2023 (report)
1. SIAM Convening on Climate Science, Sustainability, and Clean Energy, Tysons Corner, Virginia, 10-12 October 2022. (report and contributed recommendation)

Contributed Presentations

† – presentation by mentee

Oral Presentations

34. A. Sharma† (speaker), **N.D. Jackson**, J.K. Skolfield, and T. Gunda. Joint Statistical Clustering of Spatio-temporal Weather Data to Predict Wildfires, APS March Meeting, Anaheim, CA, March 2025.

33. **N.D. Jackson**, W. Chapman, J.D. Smith, C. Teeter, J. Mott, L. Scuderi, Z. Strasberg. Machine Learning and Reservoir Computing for Watershed-Scale Drought Prediction, AGU Fall Meeting, Washington, D.C., December 2024.

32. **N.D. Jackson**, T. Gunda, K.L. Bonney, S. Ferencz. Machine Learning for Water Allocation Amid Hydrologic Extremes: Case Study of the Colorado River Basin in Texas, AGU Fall Meeting, Washington, D.C., December 2024.

31. **N.D. Jackson**, T. Gunda, K.L. Bonney, S. Ferencz. From Data to Decisions: Machine Learning for Water Allocation Amid Hydrologic Extremes, DOE EESM PI Meeting, Bethesda, MD, August 2024.

30. **N.D. Jackson**. Bringing DEI into R&D spaces: examples from Sandia National Laboratories, Society for Industrial and Applied Mathematics Annual Meeting (AN24), Spokane, WA, July 2024.

29. **N.D. Jackson**, T. Gunda, R. Valdez. Modeling Water Intersections with Climate Security: Reconciling Multi-Sectoral Priorities in an Arid Region, WaterSciCon2024, St. Paul, MN, June 2024.

28. **N.D. Jackson**. Defining Extreme: Case Studies from the Electric Grid., Society for Industrial and Applied Mathematics Conference on the Mathematics of Planet Earth (MPE24), Portland, OR, June 2024.

27. **N.D. Jackson**, R. Valdez, W. Peplinski, and T. Gunda. Water for Energy: Complex Data Requirements across New Mexico Users, 2024 New Mexico Water Data Workshop, Albuquerque, NM, May 2024.

26. **N.D. Jackson**, . Extreme Weather and Natural Hazard Impacts to Grid Operations: A Focus on Utility-Scale Solar, American Meteorological Society – 15th Conference on Weather, Water, Climate, and the New Energy Economy, Baltimore, MD, January 2024.

25. **N.D. Jackson** Panelist with Rebecca Reck, Stephanie Gillespie, and Yanfen Li "Navigating changes to early career trajectories in academia" (panel), Society of Women Engineers Annual Meeting (we23), Los Angeles, CA, October 2023.

24. **N.D. Jackson** and H. Mendoza. Explainable Model Reduction to Predict Temperature Impacts, Society for Industrial and Applied Mathematics Conference on Applications of Dynamical Systems (DS23), Portland, OR, May 2023.

23. **N.D. Jackson**, P. Johnson, J. Yu, H. Baroud, A. Staid, and J-P Watson. Extreme Weather Drivers during Power Outages in the United States, American Meteorological Society – 14th Conference on Weather, Water, Climate, and the New Energy Economy, Denver, CO, January 2023.

22. **N.D. Jackson**, A. Miara, F. Corsi, D. Vignoles, H.H. Bokhari, N.S. Rao, B.M. Fekete, H.I. Jager, C.J. Vörösmarty. Flood risk to power generation in the United States, AGU Fall Meeting, Chicago, IL, December 2022.

21. **N.D. Jackson**, A. Staid, H. Baroud, P. Johnson, J-P. Watson, and J. Yu. Extreme Weather Drivers During Power Outages in the United States, Society for Risk Analysis Annual Meeting, Tampa, FL, December 2022.

20. M.D. Caballero† (speaker), J. Mott, A. Staid, and **N.D. Jackson**. Risks of Reductionism: Comparing Climate and Equity Methodologies for Interdisciplinary Energy Justice Research, Society for Risk Analysis Annual Meeting, Tampa, FL, December 2022.

19. **N.D. Jackson** with J. Desai, A. Walker, and A. Qusaibaty. Understanding Utility-Scale Solar and Storage Operations and Maintenance Cost Drivers. pv magazine webinar. Virtual. December 2022.

18. **N.D. Jackson**, N. Gayoso, T. Gunda, J. Desai, and A. Walker. Operations and Maintenance Considerations for PV+ Storage and Manufacturers, DuraMat Early Career Scientists Seminar Series, Virtual, April 2022.

17. **N.D. Jackson**, V.C. Tidwell, N. Voisin, and J. Yoon. Do We Really Trust Projections of Water Scarcity: Case Study of the Colorado River Basin, American Meteorological Society Annual Meeting, Virtual, January 2022.

16. **N.D. Jackson**, A. Staid, J-P Watson, H. Baroud, and J. Yu. Characterization of Extreme Weather Events During Large-Scale Power Outages, Society for Risk Analysis Annual Meeting, Virtual, December 2021.

15. **N.D. Jackson**, T.Gunda, and A. Staid, Weather Impacts On Utility-Scale Photovoltaic Plant Performance, eLightning presentation, AGU Fall Meeting, Virtual, December 2020.

14. A. Miara (speaker), J. Macknick, H. Jager, V.C. Tidwell, B.M. Fekete, N. Rao, F. Corsi, C.J. Vörösmarty, **N.D. Jackson**, and S. Cohen, Water Risk for the Bulk Power System: Asset to Grid Impacts, AGU Fall Meeting, Virtual, December 2020.

13. **N.D. Jackson**, Evaluation of Extreme Weather Impacts on Utility-scale Photovoltaic Plant Performance, DuraMat Early Career Scientists Seminar Series, Virtual, October 2020.

12. **N.D. Jackson**, Multi-site Assessment of Extreme Weather Impacts on PV Plant Performance and Reliability, Sandia National Laboratories 2020 Earth Science Symposium, Virtual, May 2020.

11. **N.D. Jackson**, T. Gunda, Incorporating Compound Weather Events into Utility-scale PV Performance Estimates, PV Performance Modeling Collaborative Workshop, Salt Lake City Utah, May 2020, NOTE: Cancelled due to COVID-19.

10. **N.D. Jackson**, M. Konar, P. Debaere, and J. Sheffield, Global Climate Shocks to Agriculture from 1961 to 2014, eLightning presentation, AGU Fall Meeting, San Francisco, CA, December 2019.

9. M. Konar (speaker) and **N.D. Jackson**, Global Gridded Crop Specific Agricultural Areas from 1961-2014. Fall Meeting of the American Geophysical Union. New Orleans, LA, December 2017.

8. **N.D. Jackson**, K.I. Tyler, Y. Li, W. Chen, C. Liu and R. Bhargava. Keeping Current: An Update on the Structure and Evaluation of a Program for Graduate Women Interested in Engineering Academia, ASEE Annual Conference & Exposition, Columbus, Ohio, June 2017.

7. K.I. Tyler (speaker), Y. Li, **N.D. Jackson**, W. Chen, C. Liu and R. Bhargava. Overcoming Difficulties in Research Statement Preparation for the Academic Job Search: Expansion of a Peer-Focused Professional Development Program, ASEE Annual Conference & Exposition, Columbus, Ohio, June 2017.

6. **N.D. Jackson**, M. Konar, and P. Debaere, Global Crop Allocation and Climate Shocks to Agriculture from 1950-2015, Midwest Big Data Hub Machine Learning Workshop, Urbana, IL, April 2017.

5. **N. Jackson**, M. Konar, P. Debaere and J. Sheffield, Global Climate Shocks and Crop Allocation to Agriculture from 1950 - 2015, Civil and Environmental Engineering Department Hydrology Seminar Series, University of Illinois at Urbana-Champaign, January 2017.

4. **N. Jackson**, M. Konar, P. Debaere and J. Sheffield, Global Climate Shocks to Agriculture from 1950 - 2015, AGU Fall Meeting. San Francisco, CA, December 2016.

3. **N.D. Jackson**, Climate Change and Drought in Marcala, Honduras, Rotary International Vocational Technical Training workshop to Agua y Desarrollo Comunitario, Marcala, Honduras. August 2015.

2. **N. Jackson**, M. Konar, A.Y. Hoekstra, The Water Footprint of Food Aid, Interdisciplinary Student Summit, Urbana, IL April 2015.

1. **N. Jackson**, Y. Malave, C.L. Roberts-Wollmann (speaker), S. Case, and J. Lesko. Reliability-based Uniform Flexural Resistance Factors for GFRP Reinforced Concrete Members (presentation), Third International Conference in Composites for Construction, Lyon, France, July 2005.

Poster Presentations

22. T. Gunda, **N.D. Jackson**, and L. Shand. Translation of Climate and Weather Conditions into Energy and Agriculture Sector Risk Assessments. Conference on Data Analysis (CoDA), Santa Fe, NM, February 2025.

21. **N.D. Jackson**, J.K. Skolfield, and A. Sharma. Transitional States during Compound Extreme Events and Power Outages. Conference on Data Analysis (CoDA), Santa Fe, NM, February 2025.

20. W. Chapman†, J.D. Smith, C. Mott, and **N.D. Jackson** . Graph Reservoir Networks for Prediction of Spatiotemporal Systems, Conference on Data Analysis (CoDA), Santa Fe, NM, February 2025.

19. **N.D. Jackson**, T. Gunda, S. Dhulipala, and S. Awara. Fusing Insights from Natural Hazards Assessments for Grid Resilience: A Case Study of Reliable Photovoltaics Production, AGU Fall Meeting, San Francisco, CA, December 2023.

18. T. Gunda (speaker), **N.D. Jackson**, K.L. Bonney, S.B. Ferencz. Domain-Informed, Data-Driven Approach to Streamflow Generation and Water Allocations, AGU Fall Meeting, San Francisco, CA, December 2023.

17. **N.D. Jackson**, E. Constantinescu, R. Ghanem, A. Krishnapriyan, R. Lindrup, X. Luo, C. Safta, J-P Watson, W. Xu, S. Yoo, and G. Zhao. Probabilistic Impact Scenarios for Extreme Weather Event Resilience, MultiSector Dynamics Workshop, Davis, CA, October 2023

16. T. Gunda (speaker) and **N.D. Jackson**. Extreme Weather Risks to Water-Energy-Food Nexus: A Summary of Latest Insights and Opportunities, MultiSector Dynamics Workshop, Davis, CA, October 2023

15. S. Gilletly (speaker), **N.D. Jackson**, H. Baroud, P. Johnson, and A. Staid. Extreme Weather Drivers During Large-Scale Power Outages in the United States, Conference on Data Analysis (CoDA), Santa Fe, NM, March 2023.

14. J. Desai (speaker), **N.D. Jackson**, N. Gayoso, T. Gunda, and A. Walker. Operations and Maintenance Considerations for PV+Storage, RE+ 2022, Anaheim, CA, September 2022.

13. H. Mendoza (speaker) and **N.D. Jackson**. Using Machine Learning for Predictive Modeling of Weather Impacts on Utility-scale Photovoltaic Systems, PV Performance Modeling Collaborative (PVPMC), Salt Lake City, UT, July 2022.

12. **N.D. Jackson**, V. Tidwell, N. Voisin, and J. Yoon. Projecting Water Scarcity Across Scales: Case Study of the Colorado River Basin, AGU Chapman Conference, Golden, CO, September 2022.

11. N. Gayoso, **N.D. Jackson** (speaker), T. Gunda, J. Desai, and A. Walker. PV+Storage Operations and Maintenance, 49th IEEE Photovoltaic Specialists (PVSC), Philadelphia, PA, June 2021.

10. S. Gilletly (speaker), **N.D. Jackson** and A. Staid. Quantifying Wildfire-Induced Impacts to Photovoltaic Energy Production in the Western United States, 48th IEEE Photovoltaic Specialists (PVSC), Virtual, June 2021.

9. **N.D. Jackson**, T.Gunda, and A. Staid. Weather Impacts On Utility-Scale Photovoltaic Plant Performance, PV Reliability Workshop, Virtual, February 2021.

8. **N.D. Jackson** and T. Gunda. Reusing Operations & Maintenance Records: Moving from Reactive to Proactive Management of Solar Photovoltaic Sites. Sandia National Laboratories 13^{th} Annual Postdoctoral Technical Showcase, Albuquerque, NM, December 2019.
7. **N.D. Jackson** and T. Gunda. Reusing Operations & Maintenance Records: Moving from Reactive to Proactive Management of Solar Photovoltaic Sites, AGU Fall Meeting, San Francisco, CA, December 2019.
6. M. Konar (speaker), **N.D. Jackson**, P. Debaere, and J. Sheffield. Trade openness and climate shocks in agriculture, AGU Fall Meeting, San Francisco, CA, December 2019.
5. J. Kolweier (speaker)†, T. Bhole (speaker)†, and **N.D. Jackson**. Evaluating FAIRness for Effective Dataset Presentation. University of Illinois at Urbana-Champaign Undergraduate Research Symposium, April 2019.
4. R. von Gnechten (speaker)†, M. Konar, **N.D. Jackson**, K. Baylis, P. Anderson, S. Giroux, T.P. Evans, A network analysis of household food sharing in Zambia, AGU Fall Meeting, San Francisco, CA, December 2018.
3. **N. Jackson**, M. Konar, A.Y. Hoekstra, The Water Footprint of Food Aid, AGU Fall Meeting, San Francisco, CA, December 2015.
2. **N. Jackson**, M. Konar, A.Y. Hoekstra. The Water Footprint of Food Aid, Illinois Water Day, Urbana, IL, April 2015.
1. **N. Jackson** and A-P Witmer, The Human-Water Nexus: Effective Engineering Lessons from Fatima, Honduras Water Project, Illinois Water Day, Urbana, IL, April 2015.

Teaching

8 semesters teaching experience with 3 as an instructor

† – Ranked as outstanding, ‡ – Ranked as excellent
F = Fall, Sp = Spring, Su = Summer

Role	Course Title	Academic Unit	Term
Vanderbilt University			
Guest Lecture	Energy systems	Civil & Environmental Engineering	Sp 2023
Guest Lecture	Risk, reliability, and resilience engineering	Civil & Environmental Engineering	Sp 2023
Guest Lecture	Data analytics for engineers	Civil & Environmental Engineering	Sp 2023
University of Illinois at Urbana-Champaign			
Co-Instructor	iEFX Research	College of Engineering	Su 2018†
Co-Instructor	Writing in the Engineering Fields	College of Engineering	Sp 2018†
Teaching Assistant	Water Resources Engineering	Civil & Environmental Engineering	F 2015
Teaching Assistant	Mechanics for MatSE	Materials Science & Engineering	Sp 2014‡
Teaching Assistant	Thermal-Mech Behavior of Matls	Materials Science & Engineering	F 2013
Teaching Assistant	Thermal-Mech Behavior of Matls	Materials Science & Engineering	F 2012
Virginia Tech			
Instructor	Mechanical Behavior of Materials Laboratory	Engineering Science and Mechanics	Su 2008
Teaching Assistant	Engineering Exploration	Engineering Education	F 2007

Mentorship

Provided direct supervision to 3 postdocs, 5 graduate students, and 8 undergraduate students as well as mentored 72 students in 9 training programs

F = Fall, Sp = Spring, Su = Summer

Direct Supervision

* – From a demographic under-represented in STEM fields. Home institutions of Sandia National Laboratories interns noted in parentheses.

Postdocs		
Arjun Sharma	Sandia National Laboratories	October 2024 – Present
Zachary Kilwien	Sandia National Laboratories	September 2024 – Present
William Chapman	Sandia National Laboratories	October 2023 – Present
Graduate Students		
Joshua Mott	Sandia National Laboratories (University of North Carolina)	Su2024 – Present
Allen Moore	Sandia National Laboratories (Georgia Tech)	Sp2024 – Su2024
Mariah Caballero*	Sandia National Laboratories (Vanderbilt University)	F2020 – F2023
Natalie Gayoso*	Sandia National Laboratories (University of New Mexico)	F2021 – Sp2022
Rachel von Gnechten*	University of Illinois at Urbana-Champaign	2017 – 2019
Undergraduate Students		
Sarah Paik*	Sandia National Laboratories (Vanderbilt University)	Su2022 – F2022
Joshua Mott	Sandia National Laboratories (University of Florida)	Su2020 – Sp2024
Tanvi Bhole*	University of Illinois at Urbana-Champaign Undergraduate Research Apprenticeship Program (UIUC URAP)	Sp2019
Jonathan Kolweier	UIUC URAP	Sp2019
Jacob Povlich	University of Illinois at Urbana-Champaign Civil & Environmental Engineering Research Experience for Undergraduates (UIUC CEE REU)	Sp2018
Rayan Fadel	UIUC CEE REU	Sp2018
Sajani Gumidyala*	UIUC CEE REU	Sp2016
Namrata Logishetty*	UIUC CEE REU	Sp2015

Graduate Committees

Zachary Strasberg	University of New Mexico (Earth & Planetary Sciences)	September 2024 – Present

Training Programs

Note: number of mentees from a demographic under-represented in STEM fields indicated in parentheses

Role	Program	Students	Term
Professional Mentor	University of Illinois at Urbana-Champaign Mechanical Science & Engineering Senior Capstone	11 (0)	Sp2025
Professional Mentor	University of Illinois at Urbana-Champaign Mechanical Science & Engineering Senior Capstone	4 (0)	F2024
Professional Mentor	University of Illinois at Urbana-Champaign Mechanical Science & Engineering Senior Capstone	5 (3)	F2023
Professional Mentor	Florida International University College of Engineering & Computing Senior Design	5 (4)	F2021 – Sp2022
Research Team Leader	Summer Research Opportunities Program (SROP) & Incubating a New Community of Leaders Using Software, Inclusion, Innovation, Interdisciplinary and OpeN-Science (INCLUSION)	12 (8)	Su2019
Research Team Leader	SROP & INCLUSION	11 (7)	Su2018
Research Team Leader	SROP & INCLUSION	10 (6)	Su2017
Research Team Leader	SROP	8 (8)	Su2016
Research Team Leader	SROP	6 (6)	Su2009

Service to the Profession

Appointed or Elected Leadership

Committee Member	National Academies Committee on "Attribution of Extreme Weather and Climate Events and their Impacts"	2024 – 2026
Associate Editor	Earth's Future	2023 – Present
Guest Associate Editor	Earth's Future Special Collection "Multi-Sector Dynamics: Advancing Complex Adaptive Human-Earth Systems Science in a World of Interconnected Risks"	2023 – Present
Advisory Panel Member	Environmental Research Letters	2023 – Present
Chair	Natural Hazards Section Student and Early Career Committee, AGU	2023 – Present
Scientific Steering Group Member	MultiSector Dynamics Community of Practice	2022 – Present
Steering Committee Member	Hazards Equity Working Group of the Natural Hazards Section, AGU	2020 – 2022
Board of Directors	Akelos	2016 – 2018
Membership Chair	Student Divsion, ASEE	2015 – 2016

Committee Membership Involvement

Member	Membership Committee, SIAM	2023 – 2024
Member	Natural Hazards Section Student and Early Career Committee, AGU	2019 – Present
Member	Earth & Space Science Informatics Honors Canvassing Committee, AGU	2019 – 2020, 2024

Conference Organization Involvement

Co-Organizer	Contemporary Approaches in Conceptual Climate Modeling, SIAM Dynamical Systems Conference	2025 (forthcoming)
Co-Chair	Multisector Dynamics: Extreme Weather, Compound Hazards, and Impacts on Society, AGU Fall Meeting	2023
Organizing Commitee Member	SIAM-Mathematics of the Planet Earth Conference 2024	2023 – 2024
Co-Organizer	MultiSector Dynamics (MSD) Workshop	2023
Co-Coordinator	Outstanding Student Presentation Awards for the Natural Hazards Section, AGU Fall Meeting	2022
Co-Convener	Early Career Researcher as an Identity–Unifying Our Understandings and the Implications of Doing So, AGU Fall Meeting	2022
Co-Convener	Geohazards and Society: Striving Towards Improved Natural Hazards Resilience for All, AGU Fall Meeting	2022
Co-Convener	Resilience of Energy Systems, SRA Annual Meeting	2022
Co-Organizer	Student & Early Career Conference, AGU Fall Meeting	2019 – 2022
Co-Convener	PV+Storage, PV Reliability Workshop	2022
Judge	Outstanding Student Paper Award, AGU Fall Meeting	2021
Co-Convener	Student & Early Career Voices at AGU, AGU Fall Meeting	2021
Co-Convener	Resilience Modeling of Energy Systems - Parts I/II, SRA Annual Meeting	2021

Reviewing Activities

Selection Committee	Black Engineer of the Year Awards	2024
Reviewer	Sandia National Laboratories Laboratory Directed Research & Development Earth Science Research Foundation	2024
Reviewer	NASA MUREP Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering And Science (MUREP INCLUDES)	2024
Reviewer	Water Resources Research	2024
Reviewer	NASA Earth Science Division - Early Career Investigator Program	2023
Reviewer	Journal of Open Source Software	2023 – Present
Conference Reviewer	Photovoltaic Specialists Conference	2023 – Present
Reviewer	Journal of Hydrology	2022 – Present
Reviewer	Progress in Energy	2022 – Present
Reviewer	Environmental Research Communications	2022 – Present
Reviewer	Artificial Intelligence for the Earth Systems	2022 – Present

Panel Reviewer	U.S. Department of Energy Office of Science	2022
Reviewer	Earth's Future	2021 – Present
Conference Reviewer	IEEE Resilience Week	2021 – Present
Reviewer	Environmental Research Letters	2016 – Present
Conference Reviewer	ASEE Annual Convention	2015 – 2022

Membership in Professional Societies

Society for Risk Analysis (SRA)	2021 – Present
American Meteorological Society (AMS)	2021 – Present
American Society for Civil Engineers (ASCE)	2015 – Present
American Geophysical Union (AGU)	2014 – Present
Society of Women Engineers (SWE)	2014 – Present
American Society for Engineering Education (ASEE)	2014 – Present
Society for Industrial and Applied Mathematics (SIAM)	2008 – Present
American Concrete Institute (ACI)	2004 – 2008

National Laboratory, University, and Community Service

Sandia National Laboratories Service

Supplemental Mentor	Security top Academic Research & Talent at Historically Black Colleges and Universities Program (START HBCU)	2024
Member	Analytics for Climate and Earth Sciences (ACES) Data Working Group	2022 – Present
Planning Member	ACES Community of Practice (CoP)	2021 – Present
Core Member	Electric Grid CoP	2020 – 2023

University of Illinois at Urbana-Champaign Campus Service

Laboratory Assistant	Girls' Adventure in Mathematics (GAMES), Engineering and Science Environmental Engineering and Sustainability (EES) Camp	2019
Interdisciplinary Representative	Department of Civil and Environmental Engineering Graduate Student Advisory Committee	2017–2019
Instructor	Worldwide Youth in Science & Engineering Camp Engineering Ethics session	2017–2018
Chair	Engineering Graduate Student Advisory Committee	2017-2018
Vice Chair	Campus Student Election Commission	2016–2017
President	ASEE Student Chapter	2016–2017
Co-Coordinator	Illinois Female Engineers in Academia Training	2015–2018
Alumni Mentor	Honduras Water Project	2015–2018
Student Member, Secretary	Campus Student Election Commission	2015–2016
Camp Co-Coordinator	GAMES EES Camp	2014–2017
Publicity Chair	ASEE Student Chapter	2014–2015
Student Member	LGBT Resource Center Advisory Committee	2014-2015
Student Consultant on Teaching	College of Engineering	2013-2019

Virginia Tech Campus Service

Panelist	Graduate Honor System	2007–2008 2004–2005

Department Representative	College of Engineering Graduate Student Advisory Committee	2004–2005

Community

Co-Founder	Strategic Preparation for Academic Resilience and Know-how	2021 – Present
Co-Organizer	Scientific Olympiad's Write It Do It Event, Albuquerque, NM	2020
Land Use Fellow	MIT Climate CoLab	2017–2018
Energy-Water Nexus Fellow	MIT Climate CoLab	2017
Waste Management Fellow	MIT Climate CoLab	2016
Member	Mali Water Project	2015–2016
Volunteer Judge	FIRST LEGO League of Illinois	2013–2017
Mentor	University of Illinois Laboratory High School	2013
Reviewer	Martin Luther King Jr. Creative Expressions Competition	2013
Volunteer	Awesome Ladies Preparing for High Achievement Program, Jefferson Middle School, Champaign, IL	2008
Volunteer Judge	FIRST LEGO League of Virginia	2004–2005

Media

‡ – Interview with N.D. Jackson
∗ – Interview with co-author and coverage of work

15. ∗ The Weather Chanel Storm Center: "Solar Panels and Storms: How Do They Hold Up", 06 November 2023.
14. ‡ Society for Risk Analysis Podcasts – Let's Talk Risk: "All Things Extreme Weather Events: Outages, Patterns, Restoration, & More" by Ben Rachunok, 22 March 2022.
13. Sandia Lab News: "Sandia Shines in Inaugural Bay Area Postdoctoral Research SLAM" by Amy Treece, 10 December 2021.
12. Ars Technica: "The Stormy Relationship Between Solar Power and the Weather" by Doug Johnson, 14 September 2021.
11. PV Magazine: "Measuring Impacts on Solar Performance, Whatever the Weather" by Mark Hutchins, 01 September 2021.
10. Meteorological Technology International: "Snowstorms Found to Have the Biggest Impact on US Solar Farm Production" by Dan Symonds, 01 September 2021.
9. Technology Times: "Use of Machine Learning to Study Impacts of Severe Weather on US Solar Farms" by Zainab Asif, 01 September 2021.
8. Lab Manager: "Researchers Uncover Hidden Factors That Affect Solar Farms during Severe Weather", 01 September 2021.
7. Focus Technica: "Measuring Impacts, Whatever the Weather" by Peter Moore, 01 September 2021.
6. Eurasia Review: "Sandia Uncovers Hidden Factors That Affect Solar Farms During Severe Weather", 01 September 2021.
5. Tech Post and Science: "Machine Learning Identifies Hidden Factors That Affect Solar Farms During Severe Weather", 31 August 2021.

4. Tech Xplore: "Machine Learning Identifies Hidden Factors That Affect Solar Farms During Severe Weather", 31 August 2021.

3. Science Daily: "Hidden Factors That Affect Solar Farms During Severe Weather", 31 August 2021.

2. Environmental News Network: "Sandia Uncovers Hidden Factors That Affect Solar Farms During Severe Weather", 31 August 2021.

1. Sandia Lab News: "Sandia Uncovers Hidden Factors That Affect Solar Farms During Severe Weather" by Mollie Rappe, 27 August 2021.