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## RESEARCH PORTFOLIO

### Publication Metrics

Citations: **575+** | $h-$index: **14** | $i10-$index: **18**

Additional detail can be found on:

**Google Scholar Profile** **Portfolio**

### Book Chapters

- **Hamilton, N. M.**, Tutkun, M., Cal, R. B., "Turbulent and Deterministic Stresses in the Near Wake of a Wind Turbine Array". *Whither Turbulence and Big Data in the 21st Century?*, Springer, Cham, 2017, pp. 255–271.

### Journal Articles

- Scott, R., Martınez-Tossas, L., **Hamilton, N.**, Cal, R. B., "Evolution of Eddy Viscosity in the Wake of a Wind Turbine". *Wind Energy Science Discussions*, 2022, pp. 1–22.
- Farrell, A., King, J., Draxl, C., Mudafort, R., **Hamilton, N.**, Bay, C. J., Fleming, P., Simley, E., "Design and analysis of a wake model for spatially heterogeneous flow". *Wind Energy Science*, vol. 6, no. 3, 2021, pp. 737–758.
- Martınez-Tossas, L. A., King, J., Quon, E., Bay, C. J., Mudafort, R., **Hamilton, N.**, Howland, M. F., Fleming, P. A., "The curled wake model: a three-dimensional and extremely fast steady-state wake solver for wind plant flows". *Wind Energy Science*, vol. 6, no. 2, 2021, pp. 555–570.
- Doubrawa, P., Quon, E. W., Martinez-Tossas, L. A., Shaler, K., Debnath, M., **Hamilton, N.**, Herges, T. G., Maniaci, D., Kelley, C. L., Hsieh, A. S., "Multimodel validation of single wakes in neutral and stratified atmospheric conditions". *Wind Energy*, vol. 23, no. 11, 2020, pp. 2027–2055.
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- **Hamilton, N.** "Atmospheric condition identification in multivariate data through a metric for total variation". *Atmospheric Measurement Techniques*, vol. 13, no. 2, 2020, pp. 1019–1032.
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- Ali, N., **Hamilton, N.**, Calaf, M., Cal, R. B., "Turbulence kinetic energy budget and conditional sampling of momentum, scalar, and intermittency fluxes in thermally stratified wind farms". *Journal of Turbulence*, vol. 20, no. 1, 2019, pp. 32–63.

- **Hamilton, N.** "Total variation of atmospheric data: covariance minimization about objective functions to detect conditions of interest". *Atmospheric Measurement Techniques*, 2019.
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- **Hamilton, N.**, Viggiano, B., Calaf, M., Tutkun, M., Cal, R. B., "A generalized framework for reduced-order modeling of a wind turbine wake". *Wind Energy*, vol. 21, no. 6, 2018, pp. 373–390.
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- **Hamilton, N.**, Suk Kang, H., Meneveau, C., Bayoán Cal, R., "Statistical analysis of kinetic energy entrainment in a model wind turbine array boundary layer". *Journal of renewable and sustainable energy*, vol. 4, no. 6, 2012, p. 063105.

## Conference Proceedings

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- **Hamilton, N.**, Doubrawa, P., Naughton, J., Kelley, C., "Rotor Aerodynamics, Aeroelastics, and Wake (RAAW) Campaign Overview". "Rotor Aerodynamics, Aeroelastics, and Wake (RAAW) Campaign Overview". American Physical Society, 2022.
- Scott, R., **Hamilton, N.**, Cal, R., "Characterizing Spatially Heterogeneous Wind Turbine Wakes Under Yaw and Tilt Misalignment". "Characterizing Spatially Heterogeneous Wind Turbine Wakes Under Yaw and Tilt Misalignment". American Physical Society, 2022.
- **Hamilton, N.**, Doubrawa, P., Debnath, M., Brugger, P., Porté-Agel, F., "A Modal Description of Dynamic Wake Meandering". *APS Division of Fluid Dynamics Meeting Abstracts*, 2021, E15–006.
- Sadek, Z., Cal, R. B., **Hamilton, N.,** "Mass Consistent, Analytical Near Wake Models for Wind Turbines". *APS Division of Fluid Dynamics Meeting Abstracts*, 2021, H15–003.
- Scott, R., Martinez-Tossas, L., **Hamilton, N.**, Cal, R. B., "Downstream Evolution of Eddy Viscosity in the Wake of a Wind Turbine". *APS Division of Fluid Dynamics Meeting Abstracts*, 2021, E22–009.
- Debnath, M., Brugger, P., Simley, E., Doubrawa, P., **Hamilton, N.**, Scholbrock, A., Jager, D., Murphy, M., Roadman, J., Lundquist, J. K., "Longitudinal coherence and short-term wind speed prediction based on a

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- Debnath, M., Dela, R., **Hamilton, N.**, Doubrawa, P., Quon, E., Moriarty, P. J., "Withdrawn: Impact of Surface Topography and Atmospheric Stability on Interactions of Wind Turbine Wakes". *99th American Meteorological Society Annual Meeting*, AMS,. 2019.
- **Hamilton, N.** "Identification of Dynamic Atmospheric Conditions via Total Variation". *APS Division of Fluid Dynamics Meeting Abstracts*, 2019, P20–008.
- Quon, E. W., Doubrawa, P., Annoni, J., **Hamilton, N.**, Churchfield, M. J., "Validation of Wind Power Plant Modeling Approaches in Complex Terrain". *AIAA Scitech 2019 Forum*, 2019, p. 2085.
- Shaler, K., Jonkman, J., **Hamilton, N.,** "Effects of inflow spatiotemporal discretization on wake meandering and turbine structural response using FAST. Farm". *Journal of Physics: Conference Series*, IOP Publishing, 2019, p. 012023.
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