

Joseph Wilson

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EDUCATION	MS Thesis Mechanical Engineering, Graduation Date: Aug 2021 University of Colorado Boulder BS Mechanical Engineering, Graduation Date: May 2020 Energy Engineering Minor University of Colorado Boulder
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PROFESSIONAL EXPERIENCE	Engineering Intern, June 2019 – August 2019 Arcosa Lightweight Calibration and Repair Technician, July 2011 – July 2016 United States Marine Corps Corporal (E-4, Non-Commissioned Officer)
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RESEARCH EXPERIENCE	<ul style="list-style-type: none">• CFD Simulations of Negative Pressure Isolation Space in Skilled Nursing Facility• CFD Simulations and testing of medical device for respiratory illness patients• CFD Simulations of simplified, parametric room for exposure analysis• Developed and published a novel approach of exposure risk quantification• Development of Lagrangian Particle Simulation toolkit in Python
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ACADEMIC EXPERIENCE	Student Assistant, January 2019 – May 2020 Energy Engineering Program University of Colorado Boulder Grader, Sustainable Energy, Fall 2019 Environmental Engineering Department University of Colorado Boulder Grader, Biofluids, Fall 2020 Paul M. Rady Department of Mechanical Engineering University of Colorado Boulder Teaching Assistant, Computational Fluid Dynamics, Spring 2021 Paul M. Rady Department of Mechanical Engineering University of Colorado Boulder Teaching Assistant, Sustainable Energy, Fall 2021 Paul M. Rady Department of Mechanical Engineering University of Colorado Boulder Teaching Assistant. Manufacturing Processes and Systems, Spring 2022 Paul M. Rady Department of Mechanical Engineering University of Colorado Boulder
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JOURNAL PUBLICATIONS	<ul style="list-style-type: none">• Miller, S., Mukherjee, D., Wilson, J., Clements, N., Steiner, C. (2020). Implementing a Negative Pressure Isolation Space within a Skilled Nursing Facility to Control SARS-CoV-2 Transmission. American Journal of Infection Control. https://doi.org/10.1016/j.ajic.2020.09.014• Wilson, J., Miller, S., Mukherjee, D (2021). A Lagrangian Approach Towards Quantitative Analysis Of Flow-mediated Infection Transmission in Indoor Spaces With Application To SARS-CoV-2. International Journal of Computational Fluid Dynamics. https://doi.org/10.1080/10618562.2021.1991328
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CONFERENCES
AND ABSTRACTS

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page)

- *Flow Physics Modeling for Sars-CoV-2 Negative Pressure Isolation Space in a Skilled Nursing Facility.* **Wilson, J.**, Miller, S., Clements, N., Steiner, C., Mukherjee, D., Rocky Mountain Fluid Mechanics Symposium, August 2020
- *Flow Physics Informed Design of a Negative Pressure Isolation Space for SARS-CoV-2 in a Skilled Nursing Facility.* **J. Wilson**, S. Miller, N. Clements, C. Steiner, D. Mukherjee, CCTSI CU-CSU Summit, August 2020
- *A Coupled Lagrangian Model for Flow-mediated Transmission of SARS-CoV-2 through Respiratory Ejecta in a Skilled Nursing Facility.* **J. Wilson**, S. Miller, N. Clements, C. Steiner, D. Mukherjee, American Physical Society Division of Fluid Dynamics 2020, November 2020
- *Computational Modeling of Viral Infection Transmission and Control in Indoor Spaces.* **Wilson, J.**, Miller, S., Mukherjee, D., United States National Congress on Computational Mechanics, July 2021

PERSONAL/OTHER

- Solar District Cup National Competition 2020 – 3rd Place