



**Exponent**<sup>®</sup>  
Engineering & Scientific Consulting

**Jessica M. Morris, Ph.D.,**

Associate | Thermal Sciences  
4580 Weaver Parkway, Suite 100 | Warrenville, IL 60555  
(630) 658-7536 tel | [jmorris@exponent.com](mailto:jmorris@exponent.com)

## Professional Profile

Dr. Morris specializes in the analysis of atmospheric dispersions, fires, and explosions in an industrial setting with an emphasis on flammable and toxic materials. Her expertise stems from her chemical engineering background with extensive experience with hazardous chemicals, equipment modification and fabrication, programming, data analysis, modeling, and experimental research. Through her graduate and professional experiences, Dr. Morris leverages her knowledge of atmospheric dispersion and the Process Hazard Analysis Software Tool (PHA<sup>ST</sup>, licensed by DNV-GL) to consult on hazardous material releases in the atmosphere. Dr. Morris has assisted in the review of Process Safety Management programs at industrial facilities regarding process safety information, operating procedures, management of change (MOC), and other elements of PSM programs. In addition to her contributions to multiple presentations and manuscripts, Dr. Morris has contributed to the chemical process safety community through service as the vice-chair for the Process Safety Management Mentoring (PSMM) Forum at the 16th Global Congress on Process Safety in Houston. Her current professional interests include Product Safety and Performance, Process Safety and Risk, Oil and Gas, and Alternative Energy and Safety Performance.

Prior to joining Exponent, Dr. Morris completed her Ph.D. in Chemical Engineering at the University of Arkansas at the Chemical Hazards Research Center. Her work focused on the experimentation and modelling of the effects of along-wind dispersion of finite duration contaminant releases in the atmosphere. Her work provided original validation data and improved DNV GL PHA<sup>ST</sup> models, with respect to along-wind dispersion. In addition to her background in hazardous chemicals, she continues to develop her hands-on skillsets with experience in welding, equipment fabrication, equipment specifications and modification, metal and wood shop experience, laser setup, industrial gasses, safety standards, automation of machines, and more. While at the University of Arkansas, Dr. Morris was able to develop and teach an original graduate course on technical communication both for academia and industry. She also served as an advisor for Tau Beta Pi – the national engineering honor society. With her passion for safety, she pioneered an Engineering Safety club for both undergrad and graduate students in engineering. In addition to her graduate work, Dr. Morris was the Chief Technology Officer for a technical startup company in the field of medical devices utilizing fluid flow.

## Academic Credentials & Professional Honors

Ph.D., Chemical Engineering, University of Arkansas, 2018

B.S., Chemical Engineering, University of Minnesota, Duluth, 2014

## Licenses and Certifications

40-Hour OSHA Certification, Hazardous Waste Operations and Emergency Response (HAZWOPER)

Phast Advanced Modelling

## Professional Affiliations

Vice Chair for 9th Process Safety Management Mentoring (PSMM) Forum at the 2020 Global Congress of Process Safety

Member of the American Institute of Chemical Engineers (AIChE) Loss Prevention Committee

American Institute of Chemical Engineers – AIChE (Member and Young Professional)

Society of Women in Engineering – SWE (Member)

## Publications

Morris, J.M. and Spicer, T.O. (2019) Improved Modeling of Continuous Gas Releases of Finite Duration. 15th Global Congress on Process Safety, New Orleans, LA.

Hart, R.J., Morris, J.M., Morrison, D.R. (2019) Sensitivity Analysis of Transport Conditions on Liquefied Gas Hazards. 15th Global Congress on Process Safety, New Orleans, LA.

Morris, J.M. and Spicer, T.O. (2018). Improved along-wind dispersion coefficient model from field and wind tunnel data. Annual Meeting for the Global Conference of Process Safety (GCPS), Orlando, FL.

Morris, J.M. and Spicer, T.O. (2017). Improvement of along-wind dispersion coefficient equation through experimental finite duration releases in a wind tunnel. Biannual Meeting for the Chemical and Biological Defense Science and Technology (CBD S&T) Conference, Long Beach, CA.

Morris, J.M. and Spicer, T.O. (2017). Generalization of modeling along-wind dispersion. Annual meeting for the Global Conference of Process Safety (GCPS), San Antonio, TX.

## Presentations

Morris, J.M. and Spicer, T.O. (2019) Improved Modeling of Continuous Gas Releases of Finite Duration. 15th Global Congress on Process Safety, New Orleans, LA.

Hart, R.J., Morris, J.M., Morrison, D.R. (2019) Sensitivity Analysis of Transport Conditions on Liquefied Gas Hazards. 15th Global Congress on Process Safety, New Orleans, LA.

Morris, J.M. (2019) Building Siting Evaluations: Who put that there? 2019 AIChE Midwest Regional Conference, Chicago, IL.

Morris, J.M. and Spicer, T.O. (2018). Improved along-wind dispersion coefficient model from field and wind tunnel data. Annual Meeting for the Global Conference of Process Safety (GCPS), Orlando, FL.

Morris, J.M. and Spicer, T.O. (2017). Improvement of along-wind dispersion coefficient equation through experimental finite duration releases in a wind tunnel. Biannual Meeting for the Chemical and Biological Defense Science and Technology (CBD S&T) Conference, Long Beach, CA.

Morris, J.M. and Spicer, T.O. (2017). Generalization of modeling along-wind dispersion. Annual meeting for the Global Conference of Process Safety (GCPS), San Antonio, TX.

Morris, J.M. (2017). Showcase of Chemical Engineering Research. University of Arkansas, Fayetteville, AR.

Morris, J.M. (2016). Lunch and learn: Effects of Along-wind Dispersion. DNV GL Software office, London, U.K.