



## Khaled Younes

Ph.D. Student in Mechanical Engineering, admitted Autumn 2021

### Bio

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#### EDUCATION AND CERTIFICATIONS

- M.A Sc., University of Waterloo , Mechanical Engineering (2021)
- B.A Sc., University of Waterloo , Mechanical Engineering (2017)

### Publications

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#### PUBLICATIONS

- **A self-consistent analysis of cluster morphology in supercritical carbon dioxide from Small Angle X-ray Scattering** *CHEMICAL PHYSICS LETTERS*  
Muhunthan, P., Majumdar, A., Younes, K., Vignat, G., Li, H., Rajkovic, I., Weiss, T., Sokaras, D., Ihme, M.  
2025; 876
- **Supercritical Ethanol-CO<sub>2</sub> Mixtures Exhibit Microscopic Immiscibility: A Combined Study Using X-ray Scattering and Molecular Dynamics Simulations.** *The journal of physical chemistry letters*  
Fan, J., Yoon, T., Vignat, G., Li, H., Younes, K., Majumdar, A., Muhunthan, P., Sokaras, D., Weiss, T., Rajkovic, I., Ihme, M.  
2025: 7090-7099
- **A versatile pressure-cell design for studying ultrafast molecular-dynamics in supercritical fluids using coherent multi-pulse x-ray scattering.** *The Review of scientific instruments*  
Muhunthan, P., Li, H., Vignat, G., Toro, E. R., Younes, K., Sun, Y., Sokaras, D., Weiss, T., Rajkovic, I., Osaka, T., Inoue, I., Song, S., Sato, et al  
2024; 95 (1)
- **Autonomous screening of complex phase spaces using Bayesian optimization for SAXS measurements** *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*  
Younes, K., Poli, M., Muhunthan, P., Rajkovic, I., Ermon, S., Weiss, T. M., Ihme, M.  
2023; 1057
- **Autonomous screening of complex phase spaces using Bayesian optimization for SAXS measurements.** *Nuclear instruments & methods in physics research. Section A, Accelerators, spectrometers, detectors and associated equipment*  
Younes, K., Poli, M., Muhunthan, P., Rajkovic, I., Ermon, S., Weiss, T. M., Ihme, M.  
2023; 1057
- **Improving volume-averaged simulations of matrix-stabilized combustion through direct X-ray  $\mu$ CT characterization: Application to NH<sub>3</sub>-air combustion** *COMBUSTION AND FLAME*  
Zirwes, T., Vignat, G., Toro, E. R., Boigne, E., Younes, K., Trimis, D., Ihme, M.  
2023; 257
- **Experimental and numerical investigation of flame stabilization and pollutant formation in matrix stabilized ammonia-hydrogen combustion** *COMBUSTION AND FLAME*  
Vignat, G., Zirwes, T., Toro, E. R., Younes, K., Boigne, E., Muhunthan, P., Simitz, L., Trimis, D., Ihme, M.  
2023; 250

- **Mean Velocity Scaling of High-Speed Turbulent Flows Under Nonadiabatic Wall Conditions** *AIAA JOURNAL*  
Younes, K., Hickey, J.  
2022
- **A fuzzy cluster method for turbulent/non-turbulent interface detection** *EXPERIMENTS IN FLUIDS*  
Younes, K., Gibeau, B., Ghaemi, S., Hickey, J.  
2021; 62 (4)