

# Yi Meng CHAN

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## Education

Ph.D. Nuclear Engineering (Expected 2025)

Expected 2025	Ph.D. Nuclear Engineering, Royal Institute of Technology (KTH) <ul style="list-style-type: none"><li>• Applied machine learning methods for reactor physics</li></ul> Relevant courses and subjects taken: <ul style="list-style-type: none"><li>• Deep neural networks and advanced machine learning methods</li><li>• Applied linear and non-linear optimization</li><li>• Data driven methods in engineering</li><li>• High performance computing methods</li></ul>
2018	M.Eng Nuclear Engineering, University of California Berkeley (UCB)
2017	B.Eng Chemical Engineering, National University of Singapore (NUS)

## Journal articles

2024	<b>Y. Chan</b> and J. Dufek “Representation of multi-group cross section libraries and flux spectra for PWR materials with deep neural networks for lattice calculations” <i>Ann. Nucl. Energy</i> , vol. 208, p. 110746, 2024. <b>Y. Chan</b> and J. Dufek “A deep-learning representation of multi-group cross sections in lattice calculations” <i>Ann. Nucl. Energy</i> , vol. 195, p. 110123, 2024.
2021	<b>Y. Chan</b> and S. Xiao. “Implementation and performance study of the lp-CMFD acceleration scheme for Monte Carlo method based k-eigenvalue neutron transport calculation in 1D geometry” <i>Ann. Nucl. Energy</i> , vol. 163, p. 108562, 2019
2020	<b>Y. Chan</b> and S. Xiao. “A linear prolongating Coarse Mesh Finite Difference acceleration of discrete ordinate neutron transport equation based on Discontinuous Galerkin Finite Element Method” <i>Nucl. Sci. Eng.</i> , 2020.
2019	<b>Y. Chan</b> and S. Xiao. “Implementation and Performance study of lpCMFD acceleration methods for multi-energy group k-eigenvalue neutron transport problems in hexagonal geometry,” <i>Ann. Nucl. Energy</i> , vol. 139, p. 107220, 2019 <b>Y. Chan</b> and S. Xiao. “Convergence study of CMFD and lpCMFD acceleration schemes for k-eigenvalue neutron transport problems in 2-D Cartesian geometry with Fourier analysis,” <i>Ann. Nucl. Energy</i> , vol. 133, pp. 327–337, 2019.

## Conferences

2024	Presented “Comparison of various DNN modelling strategies for assembly node averaged multigroup cross section representation for nodal codes” for 2024 International Conference on Physics of Reactors (PHYSOR)
2019	Presented “Theoretical Convergence Study of lpCMFD for fixed source neutron transport problems in 2D Cartesian Geometry,” Trans. Am. Nucl. Soc.,

vol. 121, no. 1, pp. 788–791, 2019 for 2019 American Nuclear Society Winter Meeting, Washington, D.C. Y. Chan and S. Xiao

### **Work experience**

- 2018-2021      Research Assistant (Singapore Nuclear Research and Safety Initiative)
- Worked on method development for computational neutron transport

### **Teaching experience**

- 2021 -            Teaching Assistant (KTH)  
present
- Lab instructor for Reactor physics course

### **Skills**

- Machine learning and data science tools (Python, Tensorflow)
- Programming (C++, MATLAB, Julia)
- Reactor physics computational tools
  - Monte Carlo neutronic (OpenMC, SERPENT)
  - Deterministic neutronic (NEWT, POLARIS, OpenMOC)
  - Subchannel thermal hydraulics (CTF)