GWENDOLYN J. CHEE

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EDUCATION

M.S. **University of Illinois at Urbana-Champaign** 2017 - Present
Nuclear, Plasma and Radiological Engineering
Research focus: Nuclear Fuel Cycle Simulation and Repository Modeling

B.A.Sc. **Queen's University at Kingston, Canada** 2013 - 2017
Engineering Physics
Specialization in Material Science

RESEARCH EXPERIENCE

Argonne National Laboratory May 2019 - Present
Research Aide *Lemont, IL*

- Advisor: Dr. Bo Feng
- Performing sensitivity analysis and optimization on Dymond for nuclear fuel cycle transition scenario simulations

University of Illinois at Urbana-Champaign 2017 - Present
Research Assistant, Advanced Reactors and Fuel Cycles *Urbana, IL*

- Advisor: Professor Kathryn D. Huff
- Developing and applying Cyclus, a nuclear fuel cycle simulator, to the back-end of the nuclear fuel cycle
- Running simulations to determine how varying fuel allocation strategies dynamically impacts the loading of a nuclear waste repository
- Development of demand-driven deployment algorithms for Cyclus

Queen's University at Kingston 2016 - 2017
Research Assistant, Nuclear Materials Research Group *Kingston,ON*

- Designed a Sieverts Apparatus to gaseously charge hydrogen gas into zirconium alloys to mimic hydrogen embrittlement of zirconium alloys used in nuclear reactors
- The design is being implemented at Reactor Materials Testing Laboratory to test how hydrogen embrittled zirconium alloys respond in nuclear reactor conditions

National University of Singapore Summer 2016
Research Assistant, Centre for Advanced 2D Materials *Singapore*

- Developed MATLAB programs to study the effect of Berry Curvature on electrons in graphene and the effects of changing the geometry of graphene devices on their electric fields
- Both programs were used to assist graduate students in their design of nano-graphene devices

Nanyang Technological University Summer 2015
Research Assistant, Polymeric Biomaterials Group *Singapore*

- Conducted experiments to characterize nanoparticle enhanced polymer materials to determine what material combination best increases the mechanical properties of biodegradable heart stents

ENGINEERING EXPERIENCE

4th Year Engineering Physics Capstone Project 2016
Self Sorting Recycling Bin *Kingston,ON*

- Developed a neural network to sort between recycling and garbage through image recognition and sound profiling
- Led the mechanical team to prototype the physical design which used feedback from the neural network to physically separate the items

TEACHING EXPERIENCE

Queen's University at Kingston 2015 - 2017
Teaching Assistant, Physics Department *Kingston,ON*

- Conducted weekly help sessions for students who required extra guidance in the first year physics courses (PHYS 104/106)

SERVICE

U.S. Women in Nuclear 2018 - Present
President *Urbana, IL*

- Leads the UIUC WiN chapter to uplift the mission of professional development, educational outreach and a sense of community amongst our members.

CONFERENCE PRESENTATIONS

ANS Winter Meeting Nov 2018
Presentation *Orlando, FL*

- G.J. Chee, G. Park and K.D. Huff. "Validation of Spent Nuclear Fuel Output by Cyclus, a Fuel Cycle Simulator Code".

ANS Student Conference Mar 2018
Presentation *Gainesville, FL*

- G.J. Chee, J.W. Bae and K.D. Huff. "Numerical Experiments for testing Demand-Driven Deployment Algorithms".

TECHNICAL REPORTS

Advanced Reactors and Fuel Cycles Report Series Apr 2018
Report UIUC-ARFC-2018-01 *Urbana, IL*

- G.J. Chee, J.W. Bae and K.D. Huff. "Numerical Experiments for testing Demand-Driven Deployment Algorithms".

SELECTED AWARDS AND RECOGNITION

Queens University Deans Scholar 2014-2017

TECHNICAL STRENGTHS AND OTHER RELEVANT SKILLS

Computer Languages	Python, C++, MATLAB, LabVIEW, Solid Edge, HTML
Protocols & APIs	XML
Tools	LaTeX, Mathematica, shell, vim, bash, atom, Jupyter, MS Word, MS Excel
Databases	MySQL
Nuclear Software	Cyclus , PyNE
Languages	English, Mandarin