

GWENDOLYN J. CHEE

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EDUCATION

M.S.	University of Illinois at Urbana-Champaign Nuclear, Plasma and Radiological Engineering Research focus: Nuclear fuel cycle simulation	2017 - Present
B.A.Sc.	Queen's University at Kingston, Canada Engineering Physics Specialization in Materials Engineering	2013 - 2017

RESEARCH EXPERIENCE

University of Illinois at Urbana-Champaign <i>Research Assistant, Advanced Reactors and Fuel Cycles</i>	2017 - Present <i>Urbana, IL</i>
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- Advisor: Professor Kathryn D. Huff
- Developing and applying CYCLUS, a nuclear fuel cycle simulator, for the back-end of the nuclear fuel cycle
- Running simulations to model varying transfer and loading strategies for moving of spent nuclear fuel from reactor sites to a final waste repository
- Development of demand-driven deployment algorithms for CYCLUS

Queen's University at Kingston <i>Research Assistant, Nuclear Materials Research Group</i>	2016 - 2017 <i>Kingston, ON</i>
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- 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 <i>Research Assistant, Centre for Advanced 2D Materials</i>	Summer 2016 <i>Singapore</i>
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- 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 <i>Research Assistant, Polymeric Biomaterials Group</i>	Summer 2015 <i>Singapore</i>
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- 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 <i>Self Sorting Recycling Bin</i>	2016 <i>Kingston, ON</i>
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- 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
Teaching Assistant, Physics Department

2015 - 2017
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
Professional Development Chair, UIUC Chapter

2018 - Present
Urbana, IL

- Leads the planning of events that uplifts WiN members in their career development goals

CONFERENCE PRESENTATIONS

ANS Winter Meeting
Presentation (scheduled)

Nov 2018
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
Presentation

Mar 2018
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
Report UIUC-ARFC-2018-01

Apr 2018
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	L ^A T _E X, Mathematica, shell, vim, bash, atom, Jupyter, MS Word, MS Excel
Databases	MySQL
Nuclear Software	CYCLUS , PyNE
Languages	English, Mandarin