GWENDOLYN CHEE

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EDUCATION

M.S. **University of Illinois at Urbana-Champaign** 2017 - Present
Nuclear, Plasma and Radiological Engineering

B.S. **Queen's University at Kingston** 2013 - 2017
Engineering Physics with a specialization in Materials Engineering

RESEARCH EXPERIENCE

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

- Conducting research in fuel cycle analysis: specifically using Python and C++ to develop Cyclus, a fuel cycle simulation software
- Development of prediction models for fuel cycle transition scenarios in Cyclus based on material and energy demand

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
- Application to nuclear industry: zirconium alloys used in nuclear reactors succumb to hydrogen embrittlement during its lifetime, therefore, it is important to be able to replicate the conditions in nuclear reactors, so as to study its end-of-life conditions

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

- Developed a MATLAB program that studies the effect of Berry Curvature on electrons in graphene
- Investigated the effects of changing the geometry of graphene devices on their electric fields to assist graduate students in their design of nano graphene devices

ENGINEERING EXPERIENCE

4th Year Engineering Physics Capstone Project 2016
Self Sorting Recycling Bin

- Prototyped a Self-Sorting Recycling Bin that relies on image recognition, sound profiling and weight sensing to sort trash and recyclables

Engineering Physics Design Project 2015
Photodiode Research Sensor

- Designed and fabricated a research sensor used to assess the properties of photodiodes. Information gathered included efficiency, current and voltage under illuminated and darkened conditions using an Arduino, Matlab and LabVIEW

Engineering Design and Practice II 2014
Nuclear Waste Gamma Radiation Detector

- Prototyped a Nuclear Waste Gamma Radiation Detector. Through the process of material selection and decision making, the final product was designed for use in areas surrounding the Deep Geologic Repository in Ontario

Wirecard AG 2014
Summer Technology Intern

- Redesigned Wirecard's payment processing webpage using HTML and CSS.

TEACHING EXPERIENCE

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

- First year physics courses (PHYS 104/106)
- Conducted drop in help sessions once a week for first-years who required extra guidance

SERVICE

U.S. Women in Nuclear 2018 - Present
Committee Member, UIUC Chapter *Urbana, IL*

- Promoting awareness of the benefits of nuclear applications at UIUC

UC Books to Prisoners 2017 - Present
Volunteer *Urbana, IL*

- UC Books to Prisoners is an Urbana Illinois based project that provides books to Illinois inmates at no cost via mail
- As a volunteer, we read their letters and select books that most closely meets their requests to send to them

Queen's Chinese Student Association 2013 - 2017
Co-President *Kingston,ON*

- Led a team of 20 to organize multiple cultural events through the academic year
- Designed a new membership package which increased club participation by 50%
- The biggest yearly event is a singing competition to showcase diverse talent on campus. Responsibilities include leading the event planning, stage and front of house teams

Greenovations 2014 - 2015
Committee Member *Kingston,ON*

- Promoted sustainability by retrofitting student homes: sealing windows, replacing energy-inefficient light bulbs, replacing high-flow tap heads
- Increased student awareness on environmental issues by organizing events such as a light bulb exchange: exchanging incandescence light bulbs for free energy saving bulbs

TECHNICAL STRENGTHS

Languages	Python, MATLAB, C++, LabVIEW, Solid Edge, HTML, COMSOL Multiphysics
Protocols & APIs	XML
Tools	LaTeX, Mathematica, shell, vim, bash, atom, Jupyter
Databases	MySQL,
Nuclear Software	Cyclus, PyNE