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 Material Engineering

RESEARCH EXPERIENCE

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

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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

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

- Involved in Biodegradable Heart Stent project. Prepared polymer specimens with varying nanoparticle concentrations and tested them to compare their mechanical strength

ENGINEERING EXPERIENCE

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

- Worked in a team of 6 to prototype 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

- Worked in a team of 2 to design and fabricate a research sensor used to assess the properties of photodiodes. Information gathered included efficiency, current and voltage under illuminated and darkened conditions which was found using an Arduino, Matlab and LabVIEW

Engineering Design and Practice II 2014
Nuclear Waste Gamma Radiation Detector

- Worked in a team of 4 to prototype 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

TEACHING EXPERIENCE

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

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

EXTRACURRICULAR ACTIVITIES

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

- Promoting

Queens Chinese Student Association 2013 - 2017
Co-President *Kingston,ON*

- Led 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 team leading up to the event.

Conference on Industry and Resources Queen's University (CIRQUE) 2015 - 2016
Executive Team Member - Events Coordinator *Kingston,ON*

- Worked in a team of 14 that planned, organized and executed a 2-day conference that gives engineering students a broader outlook to the versatility of their degree
- Planned and promoted a speaker series and networking night to increase delegate participation and awareness of CIRQUE on campus

Queen's Association for Technology in Medicine and Biology 2015 - 2016
Vice President of Publicity *Kingston,ON*

- Collaborated with a small executive team to organize a lecture series where faculty and students present their work that pertains to the application of technology in medicine and biology

Greenovations 2014 - 2015
Committee Member *Kingston,ON*

- Promoted sustainability within the Queen's community through a hands-on-approach, by retrofitting student homes: sealing windows, replacing energy-inefficient light bulbs, replacing high-flow tap head
- 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

Computer Languages	Python, MATLAB, C++, OrCAD, LabVIEW, Solid Edge, HTML, COMSOL Multiphysics
Protocols & APIs	XML, JSON
Databases	MySQL, PostgreSQL, Microsoft SQL
Tools	Vim, Atom