

## Yeow Qi Jie

Contact number: (+65) 9170 1653

Email: [qjie44@gmail.com](mailto:qjie44@gmail.com)

Github: [www.github.com/qjie44](https://www.github.com/qjie44)

Webpage



### Education

**Nanyang Technological University (NTU)**

**August 2015 –**

**Bachelor of Science in Chemistry and Biological Chemistry (CBC)**

**June 2019**

Honours (Distinction): Cumulative Grade Point Average (CGPA): 4.19/5.00

### Academic Projects

**Final Year Project Research Student**

**December 2018–**

***Exploring Friedel-Crafts Acylation for the Synthesis of Keto-Corannulenes***

**April 2019**

- Research on the aromatic extension of corannulene, a curved polyaromatic hydrocarbon (PAH).
- Planned and synthesized keto-corannulenes and their derivatives.
- Characterized PAHs using NMR and MALDI-TOF

**Computational Chemistry Project**

**July 2018 –**

***Theoretical Energy Calculation of HeH<sup>+</sup>***

**November 2018**

- Coded a Python script to calculate the energy of HeH<sup>+</sup> using Hartree-Fock methods using Scipy libraries

**Making and Tinkering Project**

**May 2017 –**

***Thermoelectric Multipurpose Chiller***

**August 2017**

- Developed a Thermoelectric Multipurpose Chiller controlled by a Raspberry Pi
- Coded a GUI in Python for temperature control using Tkinter and GPIO libraries
- Awarded with Best Craftsmanship Award

**Summer Research Programme Research Student**

**May 2016 –**

***Applications of CP- and PCP-Pd Complexes in the Synthesis of Heteroatom-substituted***

**August 2016**

***Tertiary Phosphines***

- Research on 2 separate ligands (CP and PCP) in their applications for asymmetric hydrophosphination
- Screened conditions and substrates
- Performed low temperature and air-sensitive reactions using Schlenk line techniques.

### Work Experience

**Research Assistant**

**November 2020**

**National Institute of Education**

**– March 2022**

- Fabricated and experimented with Dye-Sensitized Solar Cells (DSSC) for various applications.
- Synthesized and purified cobalt complexes for their use as electrolytes within the solar cells
- Designed and fabricated novel DSSC design for image recognition

**Project Officer**

**October 2019 –**

**School of Physical and Mathematical Sciences (SPMS), NTU**

**July 2020**

- Printed 3D nanostructures via meniscus confined electroplating and used SEM to identify them
- Developed data analysis suite using Python and Matplotlib
- Designed and fabricated FDM 3D printed parts for experiments

**Teaching Labs Teaching Assistant**

**January 2019 –**

**School of Physical and Mathematical Sciences (SPMS), NTU**

**May 2019**

- Part-time teaching assistant of chemistry laboratory courses for freshmen students.
- Taught 70 Chemistry freshmen students correct laboratory techniques by providing clarifications and guidelines on laboratory procedures.
- Enforced safety rules while assisting in chemistry experiments to ensure safe laboratory practice.
- Mastered effective communication and delivered clear instruction to students; enhanced understanding of laboratory procedures and troubleshooting wrong procedures.

**Making and Tinkering Labs Teaching Assistant**  
**School of Physical and Mathematical Sciences (SPMS), NTU**

**May 2019 –  
August 2019**

- Teaching assistant of courses for students.
- Enforced safety rules while assisting in technical projects to ensure safe laboratory practice.
- Advised students on technical aspects of their projects.
- Maintained 3D printers

**Community Service**

---

**Officer**

**January 2010 –  
Present**

**The Boys' Brigade in Singapore**

- In charge of administration and finances of Boys' Brigade in 2 separate schools
- Planned and executed events for 100+ participants
- Planned and conducted training camps for secondary school boys.

**Research**

---

Yeow, Q. J.; Cuhadar, C; Tay, W. K.; Tan, E. L. J.; Johnson, K; Whang, S. E.; Tsao, H. N. Converting Solar Cells To Photocapacitors Without The Incorporation Of Additional Capacitive Components. *ACS Appl. Energy Mater.* **2022**, 5, 6, 6746–6753

**Skills**

---

**Language Skills:** English (Written and Conversational), Chinese (Conversational)

**IT Skills:** Microsoft Office, ChemDraw, Python, Solidworks

**Hardware Skills:** Arduino and Raspberry Pi in varying applications