YUKAI HU

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3/F, Mong Man Wai Building
Chinese University of Hong Kong
Shatin, Hong Kong

EDUCATION

Honors Bachelor of Science: Specialist of Environmental Physics
University of Toronto, Scarborough   2018 – 2022
CGPA: 3.59/4.0

Doctor of Philosophy in Seismology
Chinese University of Hong Kong   2022 – Present

HONORS AND AWARDS

Dean's List
University of Toronto, ON, Canada   2018 - 2022

CUHK Vice-Chancellor's Ph.D. Scholarship   August 2022
Chinese University of Hong Kong

RESEARCH EXPERIENCE

Research Assistant   January 2022 – June 2022
Department of Environmental and Physics Sciences,
University of Toronto

Supervisor: **Semechah Lui**

- Working with a postdoc on the induced seismicity triggered by fluid injection, especially on aseismic slips.
- Discussed the aseismic slip and possible triggering mechanism of induced earthquakes with the postdoc every week.

Research Assistant   September 2021 – December 2021
Department of Environmental and Physics Sciences,
University of Toronto

Supervisor: **Qinya Liu**
Project: Crustal structures beneath eastern North American margin revealed by H-κ stacking
          of receiver functions

- Analyzed MAGIC Array data by using receiver functions and H-κ method.
- Investigated the V_p/V_s ratio and the Moho depth beneath the eastern North America.
- Detected a mid-crust feature in the west of the Appalachian Mountains by plotting the receiver functions.

Research Assistant   May 2021 – September 2021
Department of Environmental and Physics Sciences,
University of Toronto

Supervisor: **Kristen Menou**

- Used Dedalus package to solve partial differential equations on python.

PRESENTATION

2021   Introduced the project supervised by Prof. Qinya Liu to faculties in the physics department: Crustal structures beneath eastern North American margin revealed by H-κ stacking of receiver functions, in PHYD10 (Research Project in Physics and Astrophysics).

2021   Summarized three papers related to seismic discontinuities at different depths: Seismic discontinuities and subducted slabs at different depths in the mantle, in PHYD26 (Planetary Geophysics).

2020   Introduced the paper named Cluster analysis of global lower mantle tomography: A new class of structure and implications for chemical heterogeneity, in EESB26 (Introduction to Global Geophysics).

2020   Summarized and analyzed the hydrogeological conditions of the groundwater in Nigeria, in EESC07 (Groundwater).

TEACHING EXPERIENCE

Tutor   September 2021 – Present
SavvyUni Inc

- Tutored students in basic physics and hydrology knowledge of entry level courses at University of Toronto.
- Reestablished and consolidated the knowledge and concepts by preparing class notes and problems.

Tutor   January 2021 – May 2021
Easy Education Inc

- Tutored students in partial differential equations and basic physics at University of Toronto.

LEADERSHIP EXPERIENCE

Administrative Director
Green Path Association   2018 – 2020
University of Toronto, Scarborough

- Organized more than three large-scale activities and took participated in more than 10 different project teams as an administrative director.
- Followed the process of almost all of activities and events, creating and updating internal policies, making templates of documents and contracts.
- Helped co-presidents manage events and members in the club and collect information of membership of the club in order to improve the club to be systematical.

SKILLS AND LANGUAGE

Language: Mandarin (native speaker)

Programming: Microsoft Office, C, python, Java, Linux environment, intermediate knowledge on ArcGIS

Interests: Basketball, Calligraphy

COURSEWORK

PHYD26 – Planetary Geophysics
JPE493 – Seismology
PHYD01 – Research Project in Physics and Astrophysics
EESB26 – Introduction to Global Geophysics
PSCB57 – Introduction to Scientific Computing
PHYD37 – Introduction to Fluid Mechanics
PHYB10 – Intermediate Physics Laboratory I
PHYD38 – Nonlinear System and Chaos
EESC03 – Geographic Information Systems and Remote Sensing
ASTC25 – Astrophysics of Planetary Systems
APM346 – Partial Differential Equations
MAT334 – Complex Variables