

# SHENGDE DE (PETER) YU

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## KEY QUALIFICATIONS:

- Extensive organizational skills with an acute attention to accuracy and detail to meet objectives
- High degree of proficiency in Water quality and Nutrients Reactive Transport model and advanced knowledge of Windows, OS X, Linux
- Effective communication skills, both written and oral, to facilitate team work and cooperation
- Ability to work effectively both independently and as an integral part of a team to achieve goals

## EDUCATION:

**M.Sc. Earth Sciences (Water), University of Waterloo, ON, Canada** September 2017 – Present

- Overall GPA: 3.9/4.0
- *Relevant Coursework: Global Biogeochemical Cycles, Reactive Transport Modeling, Contaminant Hydrogeology*

**B.Sc. Earth and Environmental Sciences, University of Waterloo, ON, Canada** May 2017

- Overall GPA: 3.9/4.0; Ranking in Faculty: 2
- *Relevant Coursework: Physical Hydrogeology, Geochemistry, Flow Through Porous Media, Earth System Science*

**B.Eng. Resource Exploration Engineering, Northwest University, Xian, China** May 2015

- Ranking in Faculty: 1/50

## ACADEMIC EXPERIENCE:

### GRADUATE RESEARCH ASSISTANT, UNIVERSITY OF WATERLOO, ON, CANADA

**Singapore-Nanjing Eco Hi-Tech Island Project** August 2018 – Present

- Analyzed the water quality data and the future design of urban planning
- Built nitrogen and nitrogen species dynamic model for the whole Eco-Island

**Modeling the Phosphorus Retention Efficiency and Seasonal Variation of Nutrients in the Fanshawe Lake, ON, Canada (Thesis)** April 2018 – Present

- Analyzed and organized the hydrological data, meteorological data, dam data, and measured nutrients data and sediments data in Fanshawe Reservoir
- Built and tested physical model of the Fanshawe Reservoir (water level, water temperature and dissolved oxygen)
- Finished proposal. Thesis and paper in preparation

**Grand River Watershed Field Trip, ON, Canada** September 2018

- Communicated with Grand River Conservation Authority staff to study the surface water
- Collected and analyzed the water and sediments samples, organisms, and fish species in the Belwood Lake, ON.
- Analyzed the Grand River Watershed issues through interdisciplinary viewpoint and obtain the management plan
- Prepared the presentation in the 2018 Water Institute Research Conference

**CO<sub>2</sub> Reactive Transport Modeling Building** May 2018

- Building a CO<sub>2</sub> reactive transport modeling with MATLAB (using Crank-Nicolson approach) and Hydrus 1-D (combined this two software) to understand the reactive transport processes of CO<sub>2</sub> in a water and soil system
- Improved the model parameters by literature review and paper in preparation

**Modeling the CO<sub>2</sub> Flux at Hohes Holz, Germany** January 2018 – April 2018

- Analyzed the measurement data (for example soil properties, meteorological data, and CO<sub>2</sub> flux data etc.) in that forest
- Simulated the soil system (soil properties, temperature, evapotranspiration etc.) with Hydrus 1-D and Phreeqcl (HP-1) to have a better understand on the CO<sub>2</sub> transport processes in the forest soil system

**Global Biogeochemical Cycling of Mercury**

September 2017 – December 2017

- Analyzed the measurement data and previous modeling data in different reservoirs
- Built the global biogeochemical cycling dynamic for Hg to have a better understand on the global cycling of Hg during the Human activities
- Added Arctic Hg and simulated the Hg model with different scenarios

**UNDERGRADUATE RESEARCH ASSISTANT, UNIVERSITY OF WATERLOO, ON, CANADA**

**Modeling the Diffusion of Chlorine and Bromine Stable Isotopes in Sediments of Paris Basin, France**

May 2016 – May 2017

- Simulated the hydrogeological system with a 1-D diffusion code and 2-D model (HydroGeoSphere) to understand the primary governing factors for diffusion of stable isotopes in sediment pore water
- Compared the modeling results with measured results to explain the diffusion mechanisms in the impermeable stratum

**Whitefish Falls Field Trip, ON, Canada**

April 2016

- Mapped an unknown region with mapping skills and learned different structural texture
- Drew the geological map and analyzed the sediment environment and depositional sequence

**UNDERGRADUATE RESEARCH ASSISTANT, STATE KEY LABORATORY OF CONTINENTAL DYNAMICS, CHINA**

**Analysis of Zircon Dating**

August 2016 – September 2016

- Used ICP-MS to analyze the isotopic dating samples (U, Pb)
- Analyzed the experimental data to calculate the geological age

**LEADERSHIP AND COMMUNITY EXPERIENCES:**

**Teaching Assistant (Applied Geophysics 1) – University of Waterloo** September 2018 – Present

**Water Institute Research Conference (2018) – University of Waterloo** September 2018

**Teaching Assistant (Physical Hydrogeology and Lab) – University of Waterloo** May 2018 – August 2018

**Tutor (Applied Geophysics 1) – University of Waterloo** October 2016 – January 2017

**Session Chair** in the B.Sc. Thesis and Year 4 Project Symposium Day-University of Waterloo November 2016

**Volunteer** at the welcome pick-up and upper year talk in 2016 at University of Waterloo September 2016

**Volunteer** in children's underground water festival at Waterloo Region Museum June 2016

**Minster** of student academic department, Student Union, Northwest University, China 2014-2015

**SKILLS:**

**Languages:** Fluent in Mandarin (Native) and English, Basic German

**Software:** MATLAB, HYDRUS-1D, Phreeqcl, CE-QUAL-W2, Stella Professional, HydroGeoSphere, Microsoft Office, ArcGIS, R (programming); C (programming)

**Also experienced in Geological and Hydrogeological mapping and sample collection skills**

**HONORS AND AWARDS:**

Graduate Research Studentship 2017-2019

Science Graduate Experience Award May 2018-Present

International Master Student Award 2017-present

Science Graduate Student Award 2017-present

Dean's honors list in Faculty of Science (Diploma Printed), University of Waterloo June 2017

J.P. Bickell Foundation Mining Scholarship, University of Waterloo 2016

Dean's honors list in Faculty of Science, University of Waterloo 2016-2017

First prize scholarship for academic excellence, Institute of Geochemistry Chinese Academy of Sciences 2014-2015

First prize scholarship for academic excellence, Institute of Geochemistry Chinese Academy of Sciences 2013-2014

First prize scholarship for academic excellence, Northwest University, China 2013-2014