

## Pei-Ling Wang, Geoscientist & Post-Doctoral Researcher

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### ❖ PROFESSIONAL SUMMARY

- First-class performance in postsecondary education across science, social science, and humanity
- Multidisciplinary experience: environmental issues (soil degradation, water resources, and climate change), natural resources (groundwater, oil & gas, and mining), and natural hazards (earthquakes and landslides)
- Demonstrated abilities to integrate a variety of knowledge, technology, philosophy, and communication strategies to conduct research projects and education
- > 10-year experience in teaching and science communication
- 6 peer-review papers in international journals, 29 conference papers, 3 textbook chapters, and 26 articles for public science education in all ages
- Working experience with diverse groups including Canadian and international students, indigenous communities, and students with a disability

### ❖ EDUCATION

#### Ph.D. Geography, University of Victoria (UVic)

(GPA 8.67/9)

Dissertation “Modelling Global Human-Induced Soils Degradation and Its Impacts on Water Balance.” Using meta-analysis of agriculture, pasture, grazing and secondary vegetation impacts on soil physical properties and the relations of land uses/land covers (LULC) and different soils, estimations of soil property change were built based on LULC type, climate condition, and soil characteristic that can be used in assessing LULC impact under diverse environments. By running the LULC impact globally, the results show soil degradation has increased drought in particular areas with strong seasonality.

#### M.Sc. Earth and Ocean Sciences, UVic, 2012

(GPA 8.0/9)

Thesis “Modeling 1700 Great Cascadia Earthquake Using Paleoseismic Observations.” Coastal subsidence during the 1700 Cascadia earthquake is constrained by recently obtained more precise microfossil data. Using these constraints, finite-element modeling of surface deformation indicates that slip is more likely heterogeneous along-strike rather than uniform.

**M.Sc. Geosciences, National Taiwan University (NTU), 2010 (GPA 8.9/9)**

Thesis “Studies on Mechanisms of Coseismic Sustained Groundwater-level Changes.” Based on 4-year 1 Hz records of three monitoring wells in Taiwan and the results of dislocation models, sustained coseismic groundwater-level changes are more likely to be explained by static strain change rather than dynamic strain.

**B.A. Chinese Language and Literature, National Taipei University (NTPU), 2007 (GPA 9.0/9)****❖ EMPLOYMENT**

- **Postdoctoral Scientist, Pacific Climate Impacts Consortium, Uvic** Sep 2021–present
  - developing uncertainty estimates to accompany high-resolution climate data
  - integrating remote sensing data into PCIC’s climate maps
  - creation of high-resolution time-series maps of BC’s climate
  - characterizing climate extremes in BC
  - developing data sets to drive hydrologic models
- **Graduate Recruitment, Retention and Success Implementation Committee Support, Graduate Studies, UVic** Sep 2020 – Aug 2021
  - Conducted research to support the community to shape its recruitment to get higher quality student, improve the students’ experience, and improve the university’s standing. Oct 2019 – April 2020
  - Contacted universities to investigate how the graduate programs of thesis-based and course-based are funded
  - Identified obstacles of timely completion of graduate students
  - Analyzed student completion and withdrawal data from 2005 to 2020 for PhD and Master students in different programs and faculties, and compared student status with program requirements to identify factors affecting student performance.
- **Curriculum developer and facilitator to 2019 TA conference, UVic** Sep 2019
  - Designed and facilitated workshops during the 2019 Fall TA conference for TAs from all departments on campus
- **International Teaching Assistant Consultant, UVic** Aug 2018 – April 2019
  - Designed and facilitated workshops specifically for international TAs on campus during the 2018 Fall TA conference
  - Co-designed the first International Teaching Assistant Cultural and Communication (ITACC) Certificate (non-credit) 2018
  - Facilitated workshops for ITACC certificate
  - Provided one-on-one consultation for international graduate students

and postdocs

- **Curriculum developer and facilitator to 2018 TA conference, UVic** Sep 2018

  - Designed and facilitated workshops during the 2018 Fall TA conference for TAs from all departments
- **International Teaching Assistant Consultant, UVic** Aug 2017 – April 2018

  - Designed and facilitated workshops specifically for international TAs on campus during the 2017 Fall TA conference
  - Created and hosted “International TA Teaching and Learning Chat Room” as ongoing support for international TAs
  - Designed and facilitated workshops for teaching and communication
  - Provided one-on-one consultation for international graduate students
- **Geoscientist & Information Technologist, Artisanal Gold Council, Victoria, Canada** Feb 2015 – Oct 2015

  - Developed environmental monitoring systems including water, air, and satellite monitoring for artisanal and small-scale gold mining
  - Supported computer and information technology
  - Wrote proposals with coworkers and received 2 research grants
  - Developed an SMS communication system for fieldwork
  - Produced internet properties and 3 educational products
  - Managed office and assisted the director
  - Redesigned and maintained the website
- **Geologist, Formosa Energy Co., Ltd., Taipei, Taiwan** June 2013 – May 2014

  - Developed petroleum prospects and selected drilling locations with a subsurface team
  - Balanced cross sections to constrain deep structures and thrust duplexes
  - Constructed 3-D structural models with GOCAD
  - Constructed a database of satellite imagery using Quantum GIS including layers of roads, rivers, aerial photography, well locations, and digital elevation models.
  - Created maps for field investigations, well site selection, and transportation planning
  - Conducted field investigations for potential horizontal drilling locations in mountain areas
  - Prepared petroleum well site drilling applications and got acceptance for future evaluation
- **Research Assistant**

**The Canadian Urban Environmental Health Research Consortium** May 2017

- Built climate, surface water, and soil water condition maps of Canada to support studies on human health. – Mar 2020
- Classified local climate zones for major Canadian cities
  
- Geodesy and Remote Sensing, Geosciences, NTU** Nov 2012 – June 2013
  - Assessed impact areas of a potential catastrophic landslide in southern Taiwan after 2009 Marokot Typhoon by 3D discrete element modeling
  - Conducted field investigations for 2 potential landslide areas
  - Estimated land surface deformation in Taiwan from L-band SAR interferometry
  - Assisted “Monitoring of Active Faults and Earthquake Probabilities Analysis” research project and communication with 4 research teams from different universities and institutions
  - Wrote and combined reports from various research teams for submission to the government agency
  - Designed and maintained the lab website
  
- Geodesy and Remote Sensing, Geosciences, NTU** July 2010 – Aug 2010
  - Wrote and combined the mid-term report of the research project “Monitoring of active faults in Taiwan by continuous GPS and precise leveling”
  - Assisted textbook writing and editing
  - Generated figures and maps for teaching and paper publication
  
- Hydrogeology, Geosciences, NTU** 2006 – 2010
  - Assisted fieldworks on neutron and gamma groundwater well logging
  - Analyzed water-level data from groundwater monitoring wells
  - Wrote mid-term and final reports for research projects
  - Constructed a website for demonstrating research outcomes
  
- Research Center for East-West Philosophy and Hermeneutics, NTPU** 2004 – 2006
  - Assisted event planning and organization on visual arts, music, and performances
  - Assisted book publications
  - Assisted in schedule planning and communication
  - Designed and maintained the first website of the research center
  
- **Other Contract Work**
- English and Chinese oral translator for visiting international student groups, Centre for Asia-Pacific Initiatives, UVic, Canada 2016

Assistant of American Association of Petroleum Geologists Database, during 2015 Geoconvention, Calgary, Canada	May 2015
Video editor, Long Mountain Research Inc., Edmonton, Canada	2014 – 2017
Website designer, Geostrat Drilling Inc., Calgary, Canada	2014 – 2015
Website designer, Hydrogeology Lab, Geosciences, NTU, Taiwan	2010
Website designer, Geophysics Lab, Geosciences, NTU, Taiwan	2009 – present
Website designer, Office of Student Affairs, NTPU, Taiwan	2006 – 2007
Website designer, Office Research Center for East-West Philosophy and Hermeneutics, NTPU, Taiwan	2005 – 2007

## ❖ TEACHING EXPERIENCE

### • Teaching Assistant

GEOG 370 Hydrology (UVic)	2018
GEOG 272 Introduction to Climatology and Hydrology (UVic)	2017
GEOG 103 Introduction to Physical Geography (UVic)	2017
GEOG 272 Introduction to Climatology and Hydrology (UVic)	2016
GEOG 370 Hydrology (UVic)	2016
Introduction to Geology of Taiwan (NTU)	2014
Introduction to Geology of Taiwan (NTU)	2013
EOS 491 Hydrogeology (UVic)	2012
Hydrogeology (NTU)	2009
Introduction to Geology of Taiwan (NTU)	2009
Introduction to Field Geology (NTU)	2008
Chinese Language for international students (NTPU)	2006

### • Workshops Facilitated

Weekly crafting workshops for Society for Students with a Disability (moved to online since Mar 2020)	Sep 2019 – Aug 2020
Lesson designing–Tips and tricks for leading engaging discussions and providing active learning opportunities (2 times)	Sep 2019
Secrets to success – How to prepare for your TA role and time Management (2 times)	Sep 2019
Marking and assessment of different formats–Providing effective feedback to help your students succeed	Sep 2019
Facilitating accessible learning	Sep 2019
First day in the classroom—Get it right in the beginning	Sep 2019
Social Sciences: Who you are! Where you are going as a TA	Sep 2019
Interpersonal relationships: It is all about people	Jan 2019

Active learning: How to make learning and teaching fun and engaging?	Jan 2019
I don't mean that!—Effective communication as a TA in Canada	Oct 2018
Interpersonal relationships: It is all about people	Sep 2018
Own your tutorial or lab: Creating culture and expectations (2 times)	Sep 2018
Active learning: How to make learning and teaching fun and engaging?	Sep 2018
So, you're a TA in the Social Sciences (2 times)	Sep 2018
Social Sciences: Who you are! Where you are going as a TA! (2 times)	Sep 2018
First day in the classroom (2 times)	Sep 2018
Effective communication as a TA in Canada	Sep 2018
Cultural difference and its impact on learning and teaching	Sep 2018
Working toward international and cultural understanding	Sep 2018
Lesson planning: Discussions and activities	Sep 2018
Practical strategies for inclusive classrooms	Sep 2018
Active learning: What does that actually mean? (2 times)	Feb 2018
Interpersonal relationships: It is all about people (2 times)	Feb 2018
Identity: Knowing yourself and navigating the Canadian campus	Jan 2018
Let's make learning and teaching fun	Sep 2017
Critical Incidents: Real teaching scenarios you may confront as a TA	Sep 2017
Working towards international understanding and culture and its impact on teaching and learning	Sep 2017

#### • Guest Lectures

Nature and human interactions in Greater Victoria: a virtual field trip to Mt. Tolmie, for Social Science 190 (~100 students), UVic	Nov 2020
UVic Groundwater well demonstration and the Hobbs Creek drainage basin, for GEOG 370 Hydrology (45 students), UVic	Mar 2019
Introduction to water balance, for GEOG 370 Hydrology (45 students), UVic	Jan 2018
UVic Groundwater well demonstration and the Hobbs Creek drainage basin, for GEOG 370 Hydrology (50 students), UVic	Mar 2019
Introduction to groundwater, for GEOG 272 Introduction to Climatology and Hydrology (78 students), UVic	Nov 2017
Nature and human interactions in Greater Victoria: a field trip to Mt. Tolmie, for Social Science 190 (~80 students), UVic	Nov 2017
UVic Groundwater well demonstration and the Hobbs Creek drainage basin, for GEOG 370 Hydrology (44 students), UVic	Feb & Mar 2017
Introduction to landslides, for GEOG 103 Introduction to Physical Geography (~90 students), UVic	Jan 2017
Introduction to groundwater, for GEOG 272 Introduction to Climatology and Hydrology (~90 students), UVic	Nov 2016

Nature and human interactions in Greater Victoria: a field trip to Mt. Tolmie, for Social Science 190 (33 students), UVic	Nov 2016
Climate and water balance, for GEOG 101A Environment, Society and Sustainability, (~ 80 students), UVic	Feb 2016
UVic Groundwater well demonstration and the Hobbs Creek drainage basin, for GEOG 370 Hydrology (65 students), UVic	Mar 2016

- **Invited Talks**

Human and soil relations, Presented at “Community-engaged learning and research: The power and impact of students”, IdeaFest 2019, Uvic.	Mar 2019
Home under the ground—A soil story, presented at “Express your thesis”, IdeaFest 2019, Uvic.	Mar 2019 Mar 2019
How we know a giant earthquake is on its way and what it will Look like, for Willway Elementary Grade 4/5, Victoria, BC, Canada (declined)	Mar 2019
How we know a giant earthquake is on its way and what it will Look like, for Girl Guides of Canada, Victoria, BC, Canada (declined)	Feb 2019
How we change the land surface & soil and why it matters, for Tillicum Elementary School, Victoria, BC, Canada (declined)	Oct 2018
How we know a giant earthquake is on its way and what it will Look like, for Spencer Middle School, Langford, BC, Canada (16 students)	
How we know a giant earthquake is on its way and what it will Look like, for Phoenix Elementary School, Canada (declined)	Oct 2018
How we know a giant earthquake is on its way and what it will Look like, for Mt. Doug Secondary School, Victoria, BC, Canada. (26 students)	Oct 2018
How we know a giant earthquake is on its way and what it will Look like, for Rockheights Middle School, Victoria, BC, Canada (declined)	April 2018
How we know a giant earthquake is on its way and what it will Look like, for St. Michaels University School, Victoria, BC, Canada (30 students)	Mar 2018
How we know a giant earthquake is on its way and what it will Look like, for St. Michaels University School, Victoria, BC, Canada (30 students)	Mar 2018
How we know a giant earthquake is on its way and what it will Look like, for Journey Middle School, Victoria, Canada (declined)	Feb 2018
How we know a giant earthquake is on its way and what it will Look like, for Rockheights Middle School, Victoria, BC, Canada (22 students)	Feb 2018

How we change the land surface & soil and why it matters, for Oak Bay Gardening Club, Victoria, BC, Canada (20 seniors) Nov 2017

## ❖ CREATIVE WORK



### Home under the Ground—a Soil Story

<https://www.youtube.com/watch?v=Vtiv72UUc4g>

An animation of human-induced soil degradation and its impacts on water and climate through the eyes of a gopher, for public science education.

## ❖ HONORS AND AWARDS

- **Faculty of Graduate Studies Special Dean's Bursary**, UVic, May 2021 (\$5,000).
- **Edward Bassett Family Scholarships**, Uvic, Dec 2020 (\$2,853).
- **Leslie and Kay Jowett Graduate Scholarship**, Uvic, Dec 2020 (\$2,080).
- **Faculty of Graduate Studies Special Dean's Bursary**, UVic, May 2020. (\$1,500)
- **Community Surface Dynamics Modeling System (CSDMS) Scholarship**, CSDMS, Boulder, CO, U.S.A, Feb 2020.
- **Leslie and Kay Jowett Graduate Scholarship**, UVic, Sep 2019. (\$2,040)
- **John and Myrtle Tilley Graduate Scholarship**, UVic, Sep 2019. (\$1,910)
- **Robert W. Ford Graduate Scholarships**, UVic, Sep 2019. (\$1,390)
- **UVic Graduate Award**, UVic, June 2019. (\$1,000)
- **Leslie and Kay Jowett Graduate Scholarship**, Nov 2018. (\$3,950)
- **UVic Graduate Award**, UVic, May 2017. (\$1993)
- **UVic Graduate Award**, UVic, Jan 2017.
- **2016 Canadian Society of Petroleum Geologists (CSPG) Volunteer Award**, CSPG, Nov 2016.
- **2015 Canadian Society of Petroleum Geologists Volunteer Award**, CSPG, Nov 2016.
- **University of Victoria Donor Award**, UVic, Nov 2016.
- **UVic Graduate Award**, UVic, Jan 2016.
- **2015 Canadian Society of Petroleum Geologists Volunteer Award**, CSPG, Nov 2015.
- **Special Dean's bursary**, UVic, Nov 2015. (\$25,000)
- **Best Article Award of 2015** (one recipient from all the articles published in the Ti-Chih Geology journal in 2015), Geological Society of Taiwan, May 2015.
- **2014 Canadian Society of Petroleum Geologists Volunteer Award**, CSPG, Nov 2014.
- **Global localization poster design award**, Chinese Geophysical Society, May 2013.
- **School of Earth and Ocean Sciences Graduate Awards**, UVic, 2012. (\$10,000)
- **Award of Logo Competition**, Earth and Ocean Sciences, UVic, 2011.
- **School of Earth and Ocean Sciences Graduate Awards**, UVic, 2011. (\$10,000)



- **Essay Writing Award of National Taiwan University Speech Website**, NTU, Aug 2008.
- **Freshman bronze medal winner in the women's 800 meters**, NTU, Sep 2007.
- **Honorary Member of the Society** (one recipient in the faculty of 4 departments), the Phi Tau Phi Scholastic Honor Society of the Republic of China, June 2007.
- **Literature Prize in Digital Advertisement**, NTPU, May 2007.
- **National Taipei University Presidential Award**, NTPU, Feb 2007.
- **Outstanding Student Paper Awards**, Chinese Geophysical Society, Nov 2006.
- **Prize for Chinese Calligraphy**, NTPU, June 2006.
- **Literature Prize in Digital Composition**, NTPU, May 2006.
- **Award of Logo Design for the Department of Chinese Language and Literature**, NTPU, Dec 2006.
- **National Taipei University Presidential Award**, NTPU, Sep 2006.
- **Essay Writing Award of Healthy Life Easy Go**, NTPU, Dec 2005.
- **Literature Prize in Poem** NTPU, May 2005.
- **Literature Prize in Essay**, NTPU, May 2005.
- **National Taipei University Presidential Award**, NTPU, Feb 2006.
- **National Taipei University Presidential Award**, NTPU, Sep 2005.
- **Literature Prize in Poem**, NTPU, May 2005.
- **National Taipei University Presidential Award**, NTPU, Feb 2005.
- **National Student Prize for Literature**, NTPU, Dec 2004.
- **National Taipei University Presidential Award**, NTPU, Sep 2004.
- **National Taipei University Presidential Award**, NTPU, Feb 2004.

## ❖ PROFESSIONAL DEVELOPMENT WORKSHOPS ON TEACHING

CESM Tutorial (online)	Aug 2020
Introduction to active learning and technology	Oct 2019
Designing and Planning your Online Course	Oct 2019
Introduction to online teaching and learning	Oct 2019
The learning-centred lecture	Feb 2019
Preparing Your Teaching Philosophy or Narrative Statement	Oct 2018
Interpersonal relationships: It is all about people	Sep 2018
Own your tutorial or lab: Creating culture and expectations	Sep 2018
Active learning: How to make learning and teaching fun and engaging	Sep 2018
First day in the classroom	Sep 2018
Effective communication as a TA in Canada	Sep 2018
Fostering student success: Understanding the challenges, strategies and patterns of regulation reported by undergraduate students.	Aug 2018
Preparation and performance Tips and tools for keeping panic at bay and welcoming creativity and joy into performance situations including teaching	Aug 2018
Creating an Inclusive Learning Environment for All Students: Universal Instructional Design	Aug 2018

Planning for enhanced student engagement in classrooms	Aug 2018
Technology Showcase and Poster Session	Aug 2018
It's all about students: Thinking outside the box	Aug 2018
Informal Lunch Discussion Dr. Valerie Kuehne	Aug 2018
Fostering students' motivation through self-determination and a strengths-based approach	Aug 2018
Backward course design: Beginning with learning outcomes	Aug 2018
Emotional and Social Competence for Dynamic Learning across Cultures	Aug 2018
ITA and TA Conference: EAL Integration and Participation	Jan 2018
ITA and TA Conference: Some tips on how to deal with racism, sexism and other discriminations in your classroom	Jan 2018
Getting students moving: Active learning	Jan 2018
Mental Health and Environmental Hopefulness	Jan 2018
Strategies for increasing student engagement inside and outside the classroom	Jan 2018
Questions from students: How to respond and manage	Jan 2018
Dealing with discussion	Jan 2018
Preparing a Great Syllabus	Oct 2017
Using technology in the classroom	Oct 2017
Walk the walk and talk the talk: Confident communication with the CAC	Sep 2017
Student questions: How to answer and how to ask	Sep 2017
Reading your students	Sep 2017
Novice in the Office: Professionalism and Managing your Office Hours	Sep 2017
Welcome and Introduction to Teaching at UVic	Sep 2017
Beyond attendance: Using polling technologies for innovative assessment	Aug 2017
Tips for Using Active Learning Classrooms	Aug 2017
Critical visual thinking strategies	Aug 2017
Celebrating the Scholarship of Teaching and Learning and Innovative Curriculum Development at the UVic Poster Session	Aug 2017
The Importance of Space, Place and Reflection: Experiential and Learning-Centred Teaching	Aug 2017
Facilitating difficult conversations in the classroom	Aug 2017
How to support students with academic accommodation	Aug 2017
Strategies for teaching international students	Aug 2017
Unique strategies for the first class of your course	Aug 2017
Let's Talk About Teaching	Aug 2017
Special Interest Group meeting	Apr 2017
Effective Presentations: Strategies for Preparation and Delivery	Jan 2017
Bringing Creativity into the Classroom	Jan 2017
Crickets: What to do when students won't talk!	Jan 2017
Leadership and Professional Development Opportunities in Graduate School	Jan 2017
Successful labs in the sciences	Jan 2017
Building a Creative Classroom	Jan 2017
Classroom Assessment Techniques : Activities that quickly assess students' comprehension	Jan 2017

Take Control of Your Learning	Jan 2017
You're Not the Only One: Building Confidence as a TA	Jan 2017
Winter Celebration	Dec 2016
3M National Student Fellowship Workshop	Oct 2016
TA general information, office hours and more	Sep 2016
Critical incidents: Techniques to assess and manage situations as a TA	Sep 2016
Walk the walk and talk the talk: Confident communication with the CAC	Sep 2016
Academic honesty: A nexus between international students, their cultures and TAs	Sep 2016
Cultural acquaintance: The art of appreciating and understanding similarities and differences	Sep 2016
Putting the A's in the Arts and Humanities: Grading and assessment	Sep 2016
Grading in the Sciences: Supporting student learning	Sep 2016
Student mental health literacy	Sep 2016
Facilitating accessible learning	Sep 2016
Do graduate students have loads of time? No! Essential time management strategies	Sep 2016
Get off the stage: Learner-centred teaching	Sep 2016
Gadgets and more gadgets! How to use technology in the classroom	Sep 2016
Finding your voice: Public speaking as a TA	Sep 2016
Get a game plan: Grad student professional development	Sep 2016
Teaching assistant awards: Andy Farquharson and more	Sep 2016
Labs: Essentials for success	Sep 2016
Preparing for a teaching career in higher education	Sep 2016
Welcome and Introduction to teaching at UVic	Sep 2016
The uses and mis-uses of PowerPoint in teaching	Sep 2016
Dialogic teaching: The art and science of engaged conversation	Sep 2016
Let's talk mental health	Sep 2016
Critical thinking and the internet	Sep 2016
Embracing diversity in the digital age: The 'new normal' of our times	Sep 2016
Steps to Excellence in Teaching	Sep 2016
Why is it beneficial to attend lectures if you could just read the textbook?	Aug 2016
Dynamic learning: Collaboration on and off campus	Aug 2016
The art and craft of teaching the large class	Aug 2016
Informal Lunch Discussion with Dr. Nancy Wright AVP Academic Planning and Jim Dunsdon, AVP Student Affairs	Aug 2016
Creating and sustaining a dynamic and inclusive online experience for students:	Aug 2016
Teaching and capstone projects/theses	
Learning to bounce: Using 'wise interventions' in the undergraduate classroom to teach resilience	Aug 2016
Teaching students that creativity is a decision	Aug 2016
The growing community of the Centre for Academic Communication	Aug 2016
Building oral communication skills to complement experiential learning	Aug 2016
Let's Talk About Teaching	Aug 2016

Let's Talk About Teaching	Sep 2016
Student generic problem-solving skills: Effects of problem-based learning and assessment	May 2016
Marking: Providing effective feedback	Jan 2016
Labs: Surviving and thriving	Jan 2016
Who's the 'different one' - you or me?: Intercultural considerations in the Canadian classroom	Jan 2016
Are my students even learning anything? An Effective tool to find out	Jan 2016
Student mental health literacy	Jan 2016
CourseSpaces: What teaching assistants need to know	Jan 2016
Adventures in SoTL: TAs as action researchers	Jan 2016
Novice in the Office: Managing Your Office Hours	Jan 2016
Communicating with Students: Building and Maintaining Relationships and Boundaries	Jan 2016
Why Do We Teach?	Jan 2016
Balancing Act: Teaching, Learning and Living	Jan 2016
The Art of Sharing Knowledge	Jan 2016
Professional Development Opportunities and LATHE	Jan 2016
How I fell into the best teaching gig in the world: An assistant teaching professor shares some things about teaching	Oct 2015

## ❖ PROFESSIONAL TRAINING

- **Leading Edge Certificate**, Career Center, UVic, April 2018.
- **Foundations of Project Management**, Mitacs, Aug 2018.
- **Professional Development Workshops about Learning and Teaching in Higher Education**, the Learning and Teaching Centre, UVic, Jan 2018.
- **Professional Development Workshops about Learning and Teaching in Higher Education**, the Learning and Teaching Centre, UVic, Jan 2017.
- **The Next Frontier: Science Communication and Outreach Workshop for Established Scientists**, American Geophysical Union (AGU), Dec 2016.
- **Communicating Your Science: Ask the Experts**, AGU, Dec 2016.
- **Success in Scientific Publishing and Outreach Workshop**, AGU, Dec 2016.
- **Sharing Science Mentoring Program**, AGU, Dec 2016.
- **Career and Research Advice Mentorship Program**, AGU, Dec 2016.
- **COSEE/AGU Career Workshop**, AGU, Dec 2016.
- **Career Pathways for Graduate Students: Conference and Professional Development series**, Career Center, Uvic, Nov 2016.
- **Learning Plan**, Academic Communication Center, UVic, Oct 2016
- **Professional Development Workshops about Learning and Teaching in Higher Education**, the Learning and Teaching Centre, UVic, Sep 2016.
- **Let's Talk about Teaching**, the Learning and Teaching Centre, UVic, Aug 2016.

- **Learning Plan**, Academic Communication Center, UVic, Aug 2016
- **Graduate Career Exploration Group**, UVic, Jan 2016.
- **Professional Development Workshops about Learning and Teaching in Higher Education**, the Learning and Teaching Centre, UVic, Jan 2016.
- **Pathways to Success**. UVic, Nov 2015.
- **Teaching Assistant Workshop**, Geography, UVic, Dec 2015.
- **Getting started with geoSCOUT**, geoLOGIC systems, Jan 2015.
- **Petra Getting Started**, IHS, Dec 2014.
- **Mannville Stratigraphy, Sedimentology and Petroleum Geology**, Canadian Society of Petroleum Geologists, Nov 2014.
- **Kingdom Getting Started**, IHS, Oct 2014.
- **Geophysics and reservoir engineering**, National Central Univ., May 2014.
- **Radar image processing and PS-InSAR**, National Kaohsiung Univ. of Applied Sciences, April 2014.
- **Seismic Data Processing and Interpretation Workshop: Paradigm Software as Examples**, National Central University, Nov 2013.
- **Paleotsunami workshop in Taiwan**, National Dong Hwa University, July 2013.
- **Application of RADARSAT Image workshop**, MDA GeoSpatial Services, May 2013.
- **Introduction to radar image processing with ROI\_PAC**, National Kaohsiung University of Applied Sciences, Feb 2013.
- **Introduction to PS-InSAR and StaMPS**, NTU, Dec 2012.
- **Finding Your Voice: Effective Science Communication**, AGU, 2012.
- **Pathways to Success**, UVic, 2012.
- **Professional Development Workshops about Learning and Teaching in Higher Education**, the Learning and Teaching Centre, UVic, Sep 2012.
- **Professional Development Workshops about Learning and Teaching in Higher Education**, the Learning and Teaching Centre, UVic, Jan 2011.

## ❖ COMPUTER SKILLS

- **Operating Systems:** Microsoft Windows Suits, Linux, Compute Canada, and parallel architectures.
- **Language and scripts:** Python, FORTRAN, Visual Basic (VB), C++, AWK, KML (Google code), HTML, JavaScript, PHP, Active Server Pages (ASP).
- **Database:** MySQL.
- **Geosciences-related software:** Matlab, GMT6, SAC, Abacus, GOCAD, TIBCO Spotfire, Kingdom, Petra.
- **Geographic Information System:** ArcGIS, Quantum GIS, Google Earth, Google Earth Engine.
- **Other software:** Windows Offices, FrontPage, Dreamweaver, KompoZer, Adobe InDesign CS2, Moodle, Joomla.
- **Graphic design:** CorelDRAW, Illustrator, Photoshop, PhotoImpact, ParaView.
- **Animation and video:** Flash, Ulead VideoStudio, Camtasia Studio.

## ❖ ADDITIONAL RESEARCH EXPERIENCE

- Contributed one chapter “Drifting Continents and Spreading Seas” to Textbook “Introduction to Geology” for National Taiwan University, 2015 – 2019.
- Contributed one chapter “The Dynamic Earth” to Textbook “Earth and Environment” for high schools, 2015.
- Reviewed article “Volcano Eruption” for Mandarin Weekly (elementary), 1070, p. 2 – 3, 2015.
- Reviewed article “Air pollution – How dirty is our air?” for Mandarin Weekly (advanced), 241, p. 1, 2015.
- Equipped and monitored campus groundwater wells in University of Victoria, 2012 – 2014.
- Paleoseismic Fieldwork in Oregon, USA, April 2012.
- Contributed three chapters to Textbook “Earth and Environment” for high schools, 2009 – 2014.

## ❖ PROFESSIONAL ACTIVITIES

- 2015 GeoConvention, Calgary, Canada, May 2015.
- Green Jobs Forum 2014, Calgary, Canada, Dec 2014.
- Canadian Global Exploration Forum World of Opportunity 2014, Calgary, Canada, Oct 2014.
- 2012 American Geophysical Union Fall Meeting, San Francisco, USA, Dec 2012.
- GeoPRISMS - EarthScope Planning Workshop for the Cascadia Primary Site, Portland, USA, April 2012.
- Coastal Communities Symposium, Victoria, Canada, Feb 2012.
- 8<sup>th</sup> Taiwan – Japan Joint Workshop on Hydrological Research for Earthquake Prediction, Kaohsiung, Taiwan, Sep 2009.

## ❖ PROFESSIONAL MEMBERSHIP

- American Geophysical Union (AGU) Student Member, 2007 – 2021.
- National Ground Water Association (NGWA), 2016 – present.
- Canadian Society of Petroleum Geologists (CSPG), 2014 – 2021.
- The Society of Exploration Geophysicists (SEG), 2012 – 2021.

## ❖ VOLUNTEER

- Geography open house, UVic, Sep 2019.
- Robing assistant at spring convocation, UVic, June 2019.

- Information booth of International Student Center, Uvic, Sep 2018.
- The PEPÁKEN HÁUTW element of the Tribal School Aboriginal Day, June 2018.
- Robing assistant at spring convocation, UVic, June 2018.
- Educational Developers Caucus 2018 Conference, UVic, Feb 2018.
- International student welcome (registration and networking), UVic, Jan 2018.
- Robing assistant at spring convocation, UVic, June 2017.
- Mentor of UVic Global Community, UVic, Feb 2017 – present.
- Social media crew of the Diversity Research Forum, UVic, Jan 2017.
- Career Center, 2016 American Geological Union Fall Meeting, Dec 2016.
- Outstanding Student Paper Award Team, 2016 American Geological Union Fall Meeting, Dec 2016.
- CRD Mill Hill Regional Park Restoration Project, Oct 2016.
- Victoria Dragon boat Festival, Aug 2016.
- The PEPÁKEN HÁUTW element of the Tribal School Aboriginal Day, July 2016
- Robing assistant at spring convocation, UVic, June 2016.
- Community-University-Victoria 2016 conference, UVic, April 2016.
- Graduate symposium, Geography, UVic, Dec. 2015.
- Victoria Dragon boat Festival, Aug 2015.
- CSPG award reception (photographer), 2015 GeoConvention, May 2015.
- Session Chair of hydrogeology, 2015 GeoConvention, Dec 2014 – May 2015.
- Continuing Education committee of Canadian Society of Petroleum Geologists (CSPG), Sep 2014 – 2015.
- CSPG Technical Luncheon (photographer), CSPG, Dec 2014, Jan 2015.
- CSPG Honorary Address (photographer), CSPG, Nov 2014.
- Road race, CSPG, Aug 2014.
- Calgary Dragon Boat Race & Festival, Calgary Dragon Boat Society, Aug 2014.
- Fish Creek Votier Flats Trail Day: Built a new trail with a 25-person team, Aug 2014.
- Integrating GPS, leveling, strainmeter, PS-InSAR, and groundwater observations under the project “Integrated Monitoring of Active Faults and Earthquake Probabilities Analysis”, NTU, 2013 – 2014.
- Giving Gardens, UVic, 2012.
- Victoria Film Festival, February 2012.
- Let’s Talk Science, 2011 – present.
- Pacific Geoscience Center, Natural Resources Canada, 2010 – 2012.
- Victoria Dragon boat Festival, Aug 2010.
- Experience UVic, May 2010.
- Counselling Center, NTPU, 2004 – 2006.

## ❖ PUBLICATIONS

### • Journal Articles

- Wang, P.-L.** & J. Feddema (2020) Linking global land use/land cover to hydrologic soil groups from 850 to 2015, *Global Biogeochemical Cycles*, 34, e2019GB006356, doi: 10.1029/2019GB006356
- Su, Z., J.-C. Hu, E. Wang, Y. Li, Y. Yang, **P.-L. Wang** (2017) Monitoring interseismic activity on the Ilan Plain (NE Taiwan) using Small Baseline PS-InSAR, GPS and leveling measurements: partitioning from arc-continent collision and backarc extension, *Geophys. J. International*, 212(1), 264–283, doi: 10.1093/gji/ggx394.
- Tang, C.-L., C.-I. Lu, **P.-L. Wang**, Y.-C. Hsieh, C.-S. Hou, J.-C. Hu, K.-C. Lin (2014) Evaluate potential landslide and affected areas in Chulin, Kaohsiung by using a granular discrete element model. *Journal of Engineering Environment*, 32, 69–84 (in Chinese).
- Engelhart, S.E., B.P. Horton, A.R. Nelson, A.D. Hawkes, R.C. Witter, K. Wang, **P.-L. Wang**, and C.H. Vane (2013) Testing the use of microfossils to reconstruct great earthquakes at Cascadia. *Geology*, doi: 10.1130/G34544.1.
- Wang, P.-L.**, S.E. Engelhart, K. Wang, A.D. Hawkes, B.P. Horton, A.R. Nelson, and R.C. Witter (2013), Heterogeneous rupture in the great Cascadia earthquake of 1700 inferred from coastal subsidence estimates. *Journal of Geophysical Research: Solid Earth*, 118(5), 2460–2473, doi:10.1002/jgrb.50101.
- Wang, C., Y. Chia, **P.-L. Wang**, and D. Dreger (2009), Role of S waves and Love waves in coseismic permeability enhancement, *Geophys. Res. Lett.*, 36, L09404, doi:10.1029/2009GL037330.

### • Articles Currently in Preparation

- Wang, P.-L.** & J. Feddema, Estimating Global Soil Organic Carbon Loss Driven by Human Land-Use Change (submitted to *Nature*).
- Wang, P.-L.** & J. Feddema, Estimating Global Human Impact on Soil Hydraulic Properties (to be submitted to *Science*).
- Wang, P.-L.** and Y. Chia. Mechanisms of coseismic sustained groundwater-level changes based on high sampling rate records.
- Tang, C.-L., **P.-L. Wang**, R.-M. Yuan, J.-C. Hu, M.-L. Lin, C.-T. Lee, Y.-S. Liou. Assessment of the kinematic process of 2009 Hsiaolin landslide: Insight from 3-D distinct element modeling.
- Tang, C.-L., **P.-L. Wang**, R.-M. Yuan, J.-C. Hu, M.-L. Lin, C.-T. Lee, Y.-S. Liou. Three-dimensional discrete element modeling of the 1999 Tsaoiling landslide, Taiwan.

### • Public Science Journals and Newspapers (invited, in Chinese)

- Wang, P.-L.** (2020) Finding habitable planets, *Weekly-elementary*.



- Wang, P.-L.** (2019) Exploring glaciers, Weekly-elementary.
- Wang, P.-L.** (2019) Earth structure, Weekly-elementary.
- Wang, P.-L.** (2017) A soil story, Weekly-elementary.
- Wang, P.-L.** (2017) Walking on A-Lan-I old trail, Weekly-elementary.
- Wang, P.-L.** (2017) Mud volcanos. Weekly-elementary, 1114, 2 – 3.
- Wang, P.-L.** (2016) It's snowing! Weekly-elementary, 1112, 2 – 3.
- Wang, P.-L.** (2016) Su-au Cold Spring, Mandarin Weekly-elementary, 1120, 2 – 3.
- Wang, P.-L.** (2016) The shale gas age. Ti-Chih (Geology), 35(2), 68 – 71.
- Wang, P.-L.** (2016) The coasts around Taiwan, Mandarin Weekly-elementary, 1105, 2 – 3.
- Wang, P.-L.** (2016) The Lau-Mai green trough, Mandarin Weekly-elementary, 1105, 1.
- Wang, P.-L.** (2016) Smog is coming! Mandarin Weekly-elementary, 1091, 2 – 3.
- Wang, P.-L.** (2015) The rotation Earth – Why it is getting hotter and hotter? Mandarin Weekly-elementary, 1065, 2 – 3.
- Wang, P.-L.** (2015) Is it true that earthquake activities increase? Mandarin Weekly-advanced, 248, 1.
- Wang, P.-L.** (2015) The mechanism of earthquakes – Plate kinematics, Mandarin Weekly-advanced, 248, 2.
- Wang, P.-L.** (2015) Finding and assembling fossils – How to reconstruct dinosaurs? Mandarin Weekly-elementary, 1057, 2 – 3.
- Wang, P.-L.** , J.-C. Hu (2015) Release gas from rock pores, Science Monthly, 46(9), 674 – 677.
- Wang, P.-L.** (2015) Nanotechnology for preserving special landscapes, Mandarin Weekly-advanced, 217, 1.
- Wang, P.-L.** (2015) Special landscapes in Taiwan, Mandarin Weekly-advanced, 217, 2.
- Wang, P.-L.** (2015) Great natural force – spectacular landscapes in the World, Mandarin Weekly-advanced, 217, 3.
- Wang, P.-L.** (2015) Will it snow in summer? Mandarin Weekly-advanced, 208, 12 – 13.
- Wang, P.-L.** and J.-C. Hu (2015) Will the volcano revive? Science Monthly, 208, 108 –111.
- Wang, P.-L.** (2014) Reconstruction of the 1700 tsunami earthquake. Ti-Chih (Geology), 33(2), 71–77.
- Wang, P.-L.** (2014) The orphan tsunami. Ti-Chih (Geology), 33(1), 82–86.
- Wang, P.-L.** and J.-C. Hu (2012) Who is in charge of earthquake hazards? Science Monthly, 517, 4 – 5.

- **Conference Papers**

- Wang, P.-L.** and J. Feddema (2021) Modelling Global Land-Use and Land-Cover Impacts on Soil Physical Properties and Water-Holding Capacity, 26<sup>th</sup> Annual CESM Workshop, NCAR UCAR, online, 14-17 Jun.
- Wang, P.-L.** and J. Feddema (2021) Modelling Global Land-Use and Land-Cover Impacts on Soil Physical Properties and Water-Holding Capacity, CESM Land Model and Biogeochemistry Working Group Meeting, NCAR UCAR, online, 23-25 Feb.

- Wang, P.-L.** and J. Feddema (2020) Modelling Land-Use and Land-Cover Impacts on Soil Organic Carbon, Soil Texture, and Bulk Density on a Global Scale, presented at 2020 Fall Meet. AGU, Abstract 769891, online, 13-17 Dec.
- Wang, P.-L.** and J. Feddema (2020) Quantifying Land-Use Impacts on SOC, Soil Texture, and Bulk Density for Earth System Modeling, CSDMS Summer Science Series, online, July 14.
- Wang, P.-L.** and J. Feddema (2020) Quantifying land-use Impacts on SOC, soil texture, and bulk density and simulating human-induced soil degradation, CESM Land and Biogeochemistry Working Group Meeting, Boulder, Colorado, 3-5 Mar.
- Wang, P.-L.** and J. Feddema (2019) Linking Global Land Use/Land Cover to Hydrologic Soil Groups and Modelling Human-Induced Soil Degradation from 850 to 2015, presented at 2019 Fall Meet. AGU, San Francisco., 9-13 Dec.
- Wang, P.-L.** and J. Feddema (2019) Linking LULC to four hydrological soil groups from 850 to 2015, Community Earth System Model Workshop, Boulder, Colorado, 17-19 June.
- Wang, P.-L.** and J. Feddema (2019) How human-induced soil degradation affects global water balance, 2019 Western Division, Canadian Association of Geographers Conference, Victoria, 8-9 Mar.
- Wang, P.-L.** and J. Feddema (2018), Modeling soil conditions under human land uses and its Impacts on the global water balance, Abstract GC21G-1187, presented at 2018 Fall Meet. AGU, Washington, D.C., 10-14 Dec.
- Wang, P.-L.** and J. Feddema (2017) Modeling Human-Induced Soil Degradation and Global Water Balance, UVic Geography Bridging The Gap 2017, 31 Mar.
- Wang, P.-L.** and J. Feddema (2017) Modeling the impact of soil conditions on global water balance and the insights into human-induced soil degradation, Department of Geography Lecture Series, 20<sup>th</sup> Jan.
- Wang, P.-L.** and J. Feddema (2016) Modeling the impact of soil conditions on global water balance, Abstract EP41C-0925, presented at 2016 Fall Meet. AGU, San Fr. Calif., 3-7<sup>th</sup> Dec.
- Wang, P.-L.**, S.E. Engelhart, K. Wang, A.D. Hawkes, B.P. Horton, A.R. Nelson, and R.C. Witter (2015), The great 1700 Cascadia earthquake, Graduate Symposium, Geography, University of Victoria.
- Wang, P.-L.**, Y. Chia, J.-C. Hu (2013) Studies on mechanisms of coseismic sustained groundwater-level changes. 12<sup>th</sup> Taiwan-Japan International Workshop on Hydrological and Geochemical Research for Earthquake Prediction, abstract #13-1.
- Wang, P.-L.**, S.E. Engelhart, K. Wang, A.D. Hawkes, B.P. Horton, A.R. Nelson, and R.C. Witter (2013), Rupture models of the great 1700 Cascadia earthquake based on microfossil paleoseismic observations, 2013 Taiwan Geosciences Assembly.
- Engelhart, S.E., B.P. Horton, A.R. Nelson, K. Wang, **P.-L. Wang**, R.C. Witter, A. Hawkes, C. Vane (2012), Reconstructing the magnitude for Earth's greatest earthquakes with microfossil measures of sudden coastal subsidence, Abstract T22D-05 presented at 2012 Fall Meeting,

AGU, San Francisco, Calif., 3-7 Dec.

**Wang, P.-L.**, K. Wang, A. Hawkes, B.P. Horton, S.E. Engelhart, A.R. Nelson, R.C. Witter (2011), Heterogeneous rupture in the great Cascadia earthquake of 1700 Inferred from coastal subsidence estimates, AGU Fall Meeting, abstract # OS33A-1630.

Hawkes, A.D., S.E. Engelhart, B.P. Horton, A.R. Nelson, R.C. Witter, K. Wang, **P.-L. Wang**, C.H. Vane, and Y. Sawai (2011), Cascadia tidal marshes archive repeated episodes of coseismic subsidence from late Holocene great megathrust earthquakes, AGU Fall Meeting, abstract # OS43D-02.

**Wang, P.-L.**, Y. Chia, R. Lee, and P. Lu (2010), Mechanism of coseismic groundwater-level changes at the Hualien well, Taiwan, *Eos Trans. AGU*, 91(26), West. Pac. Geophys. Meet. Suppl., Abstract H51A-148.

**Wang, P.-L.**, Y. Chia, R. Lee, and P. Lu (2010), Coseismic Groundwater-level Changes at the Zhuangwei Well, Taiwan, 2010 Annual Congress of Chinese Geophysical Society and Geological Society of Taiwan, Geophysical Society and Geological Society, Abstract 2-R-H1-7.

Liu, C., Y. Chang, C. Lee, M. Lin, **P.-L. Wang**, Y. Kuan, and Y. Chia (2009), Analysis of groundwater level changes in monitoring wells in eastern Taiwan, 2009 Annual Congress of Chinese Geophysical Society and Geological Society of Taiwan, Geophysical Society and Geological Society, Abstract H16-PS.

**Wang, P.-L.**, C. Liu, R. Lee, P. Lu, and Y. Chia (2009), Mechanisms of sustained coseismic changes based on high-frequency groundwater-level records, 2009 Annual Congress of Chinese Geophysical Society and Geological Society of Taiwan, Geophysical Society and Geological Society, Abstract H16-PS.

**Wang, P.-L.**, C. Liu, R. Lee, P. Lu, and Y. Chia (2009), High-frequency groundwater-level records at Hualien well, Resources & Water Quality Protection Meeting, Abstract C3.

**Wang, P.-L.**, Y. Chia, R. Lee, and P. Lu (2009), Mechanism of sustained coseismic groundwater-level changes, *EOS Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract T13D-1913.

Chia, Y., **P.-L. Wang**, K. Hsu, R. Lee, and T. Lee (2008), Changes of groundwater level in Taiwan following the 2008 Wenchuan earthquake, *EOS Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract U23B-0064.

**Wang, P.-L.**, C. Liu, R. Lee, P. Lu, and Y. Chia (2008), Coseismic groundwater-level changes in the Hualien monitoring well, 2008 Annual Congress of Chinese Geophysical Society and Geological Society of Taiwan, Geophysical Society and Geological Society, Abstract H1-B12-488.

Liu, C., W. He, **P.-L. Wang**, Y. Chang, J. Hsiao, and Y. Chia (2007), Analysis of groundwater level changes in monitoring wells in west-southern Taiwan, 2007 Taiwan Geosciences Assembly (TGA), Abstract PP-411.

**Wang, P.-L.**, B. Chen, J.-C. Hu, Y. Guan, P. Lu, and Y. Chia (2007), Coseismic changes of groundwater level due to the 2006 MW 6.2 Taidong earthquake, 2007 Taiwan Geosciences

Assembly (TGA), Abstract PP-409.

**Wang, P.-L.**, Y. Chia, Y. Chang, J.-C. Hu., and R. Lee (2007), Coseismic changes of groundwater level due to the 2003 MW6.8 Chengkung earthquake, EOS Trans. AGU, 88(52), Fall Meet. Suppl., Abstract T43B-1346.

**Wang, P.-L.**, Y. Chang, W. He, and C. Liu (2006), Coseismic groundwater-level changes following the 2003 Chengkung earthquake, 2006 Annual Congress of Chinese Geophysical Society, Chinese Geophysical Society, Abstract CS3-06.