

Jessica K. Wang (she/her)

Assistant Professor
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EDUCATION

- 2020 **Ph.D. Earth System Science**, University of California, Irvine
Dissertation: *Interannual to Centennial-Scale Changes in Southeast Asian Hydroclimate during the Common Era*
- 2016 **M.S. Earth System Science**, University of California, Irvine
- 2014 **B.S. Meteorology**, Texas A&M University
Undergraduate Research Scholar, Minor in Oceanography

INSTRUCTIONAL APPOINTMENTS

- 2020-Current **Assistant Professor**
Earth and Space Sciences, Bellevue College, Bellevue, WA
- Developing student-centered, problem-based curricula in atmospheric sciences, oceanography, and climate science for online and hybrid class environments
 - Implementing Transparency in Learning & Teaching (TILT) and Universal Design for Learning (UDL) frameworks
 - Promoting a sense of belonging by cultivating a growth-mindset environment
 - *Courses*: METR 101 Introduction to the Weather, OCEA& 101 Introduction to Oceanography w/Lab, METR 111 Global Warming: Causes and Consequences
- Sum 2018 **Teaching Associate**
Department of Earth System Science, University of California, Irvine, Irvine, CA
- *Course*: ESS 1 Introduction to Earth System Science
- 2015-2016 **Teaching Assistant**
Fall 2019 Department of Earth System Science, University of California, Irvine, Irvine, CA
- *Courses*: ESS 17 Hurricanes, Tsunamis, and Other Catastrophes, ESS 7 Physical Geology, ESS 21 On Thin Ice: Climate Change and the Cryosphere
- Sum 2014 **Graduate Teaching Assistant**
Sum 2016 American Indian Summer Institute in Earth System Science (AISESS)
- Facilitated hydrology and water quality labs at local field site
 - Mentored 10 Native American high-school students on research projects and oral presentations related to environmental issues

AWARDS & FELLOWSHIPS

- 2021 Bellevue College Science Division Equity Champion Recognition Award
- 2019 UC Irvine Pedagogical Fellowship Award
- 2017 UC Irvine Associated Graduate Students (AGS) Travel Grant

2017	Goldschmidt Conference Student Travel Grant
2016-2020	National Science Foundation (NSF) Graduate Research Fellowship
2015	UC Irvine Data Science Initiative Fellowship
2014	George Bush Presidential Library Foundation Travel Award
2014	Dean's List and Distinguished Student Award

Grants

2021	NSF GOLD-EN: EAGER: Collaborative Research: <i>"Enhancing Asian American and Pacific Islander Participation and Belonging in the Geosciences"</i> , NSF Geoscience Opportunities for Leadership in Diversity – Expanding the Network, 2021-2023. PI: DE Ibarra; co-PIs: KV Lau, D Ho, S Legg, S Kim, J Wang , RI Ruberg, S Ying. \$291,291 total
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COMMUNITY OUTREACH & LEADERSHIP

2018, 2021	<p>STEM Professional Participant, Letters to a Pre-Scientist</p> <ul style="list-style-type: none"> Serving as a STEM professional in a yearlong pen pal program with a 5th grade student living in a US low-income community
2021	<p>Adjudicating Panelist for Climate Change Course Sammamish High School, Bellevue, Washington</p> <ul style="list-style-type: none"> Evaluated student presentations on the science and feasibility of geoengineering and emission reduction proposals
2014-2020	<p>Climate Literacy, Empowerment And iNquiry (CLEAN) Education University of California, Irvine</p> <ul style="list-style-type: none"> Graduate student-led non-profit climate literacy and education K-12 outreach program Lead instructor on Paleoclimate, MacArthur Fundamental Intermediate School, Santa Ana, CA (Nov 2015-2017) Assistant Presenter on Weather and Climate, MacArthur Fundamental Intermediate School, Santa Ana, CA (Mar 2015-2019) Lead Presenter, Orange County Children's Water Festival (Mar 2015)
2017-2020	<p>Student Chapter of the American Meteorological Society at UC Irvine Co-founder and Vice-President</p> <ul style="list-style-type: none"> AMS Student Chapter of the Year Honor Roll (2017-2018), AMS Annual Meeting Best Local Student Chapter Poster (Jan 2019), UC Irvine Anteater Awards Best New Student Organization (2017-2018), UC Irvine Student Organization of the Month (Apr 2018)
2017-2020	<p>Scientist, Skype-A-Scientist</p> <ul style="list-style-type: none"> Matched with 10+ 3rd-5th grade classrooms for 60-minute Zoom Q&A sessions in the United States, Canada, and Hong Kong
2016-2019	<p>Event Supervisor and Climate Science-Meteorology Exam Writer and Proctor Orange County Regional Science Olympiad, University of California, Irvine</p>
2014-2017	<p>Planning Committee Member, 2017 Summer School of Speleothem Science, Burgos, Spain</p>

MENTORING & ADVISING

2020-Current	Earth Sciences Mentor, Earth Sciences Mentor Match program
2016-2019	UC Irvine Johnson Paleoclimate Lab Group <ul style="list-style-type: none">Jane Liu (2016-2017), Madeline Garibaldi (2017), Saniya Syed (2016-2017), Gianna Lum (2017-2019), Lindsey Lewis (2017-2019)
2018-2019	UC Irvine Physical Sciences Student Mentor
2018-2019	UC Irvine Graduate Mentor for Women and Minorities in STEM
2013-2014	Texas A&M College of Geosciences Retention Program Mentor

PROFESSIONAL SERVICE & GOVERNANCE

Bellevue College

2021-Current	Steering Committee Member, Science and Math Institute (SAMI)
2020-2021	eLearning Course Reviewer, Peer-to-Peer Course Design Project
2021-Current	Student Gathering Facilitator, Earth and Space Sciences Program
2020-Current	Earth and Space Sciences Course Mapping Team Member, Bellevue College Pathways
2020-Current	Education Subcommittee Member, Bellevue College Black, Indigenous, People of Color (BIPOC) Coalition
2020-Current	Member, Women of Color Mentoring Circle
2020-Current	Manager of the Bellevue College Weather Station

University of California, Irvine

2019	Pedagogical Fellow, Division of Teaching Excellence and Innovation
2019	Co-Facilitator, "Cultivating Habits of Accessible Teaching" Series
2019	Co-Founder and Co-Organizer, Inclusive Instruction Working Group

PROFESSIONAL DEVELOPMENT

Bellevue College

High-Impact, Equity-Creating Teaching & Learning Frameworks and Practices

Win 2022	Student Engagement Workshop Series (8-weeks)
Fall 2021	Nuts and Bolts of Equitable College Instruction (8-weeks)
Spr 2021	Educational Equity Training (11-weeks)
	Accommodations Unwrapped in the Virtual Classroom (4-weeks)
	Teaching and Assessing Critical Thinking Workshop
	Transformational Pedagogy Workshop
Win 2021	High Impact Practices Research Pilot Project (11-weeks)
	Classroom Assessment Techniques in the Classroom Workshop

Research and Discovery-Based Learning in the Online Classroom Workshop
 Fall 2020 STEM Equity Practices (4-weeks)
 Assignment Redesign with Transparency in Learning and Teaching (3-weeks)
 Preparing for an Inclusive/Remote Class (11-weeks)
 Sum 2020 High-Impact Practices in the Online/Virtual Classroom (5-weeks)

Culturally Responsiveness

Win 2022 *Equity-Centered Trauma-Informed Education* by Alex Shevrin Venet Book Club
 Sum 2021 Addressing Racial Opportunity Gaps
 Win 2021 *Teaching to transgress* by bell hooks Book Club (4-weeks)
 Microaggressions in Our Classrooms (4-weeks)
 Fall 2020 Race-Conscious Teaching: Striving for Equity in the Classroom Workshop
 Sum 2020 LGBTQ+ Safe Space 101 Awareness Course

Climate Justice Focus

Fall 2021 *Saving Us: A Climate Scientist’s Case for Hope and Healing in a Divided World* by Katharine Hayhoe Book Club (5-weeks)
 Sum 2021 Climate Justice Summer Institute (4-weeks)
 Spr 2020 Interdisciplinary Climate Justice Teaching Squares (11-weeks)

University of California, Irvine

2019 Pedagogical Fellow, Division of Teaching Excellence and Innovation
 2018 Pedagogical Liaisons Program, Division of Teaching Excellence and Innovation

Additional Certifications and Training

2021 Equity in the Screening Process; Recruiting and Selecting Excellence
 Bellevue College Human Resources
 2018 Certificate in Teaching Excellence
 UC Irvine Division of Teaching Excellence and Innovation
 2018 Course Design Certificate
 UC Irvine Division of Teaching Excellence and Innovation
 2018 CIRTL Associate
 Center for Integration of Research, Teaching, and Learning

RESEARCH APPOINTMENTS

2014-2020

Graduate Student Researcher

Department of Earth System Science, University of California, Irvine
 • Reconstructed past monsoon intensity and local hydroclimate using cave deposits from Southeast Asia, historical observational, and climate model experiments
 Advisor: Dr. Kathleen Johnson, Earth System Science, UC Irvine

- 2011-2014 **Undergraduate Research Technician**
 Department of Geology, Texas A&M University
- Analyzed the relationship between atmospheric conditions and soil moisture in the Great Plains, identified the spatial and temporal variability of soil moisture in Iowa, and contributed to the North American Soil Moisture Database
 Advisor: Dr. Steven Quiring, Geography, Ohio State University (current institution)
- 2011-2014 **Undergraduate Research Assistant**
 Department of Oceanography, Texas A&M University
- Evaluated the behavior of glacial and interglacial sediment accumulation at Cocos Ridge in Central America using ocean sediment cores
 Advisor: Dr. Mitch Lyle, Earth, Ocean, and Atmospheric Sciences, Oregon State University (current institution)
- Sum 2013 **NSF Research Experience for Undergraduates (REU) Fellow**
 College of Earth, Ocean, and Atmospheric Sciences, Oregon State University
- Investigated the utility of sedimentary silver as a paleoproductivity proxy in redox marine environments
 Advisor: Dr. Jennifer McKay, Earth, Ocean, and Atmospheric Sciences, Oregon State University

PEER-REVIEWED PUBLICATIONS

- [6] Lu, J., H. Yang, M. Griffiths, N. Burls, G. Xiao, J. Long, **J.K. Wang**, K. Johnson, 2021, Asian monsoon evolution linked to Pacific temperature gradients since the Miocene. *Earth and Planetary Science Letters*, **563**. doi: /10.1016/j.epsl.2021.116882
- [5] **Wang, J.K.** J-Y. Yu, K.R. Johnson, 2019, Pacific and Atlantic controls on the relationship between Mainland Southeast Asia and East China interannual precipitation variability, *Climate Dynamics*. doi: 10.1007/s00382-020-05227-0
- [4] **Wang, J.K.**, K.R. Johnson, A. Borsato, D.J. Amaya, M.L. Griffiths, S. Frisia, G.M. Henderson A. Mason, 2019, Hydroclimatic Variability in Southeast Asia over the Last Two Millennia, *Earth and Planetary Science Letters*, **525**, 115737. doi: 10.1016/j.epsl.2019.115737
- [3] Quiring, S., T. Ford, **J.K. Wang**, A. Khong, E. Harris, T. Lindgren, D. Goldberg, and Z. Li, 2016, The North American Soil Moisture Database: Development and Applications. *Bulletin of the American Meteorological Society*. doi: 10.1175/BAMS-D-13-00263.1
- [2] **Wang, J.K.**, T.W. Ford, and S.M. Quiring, 2015, Distinguishing between Unorganized and Organized Convection When Examining Land–Atmosphere Relationships. *Journal of Applied Meteorology and Climatology*, **54**, 2229–2243. doi: 10.1175/JAMC-D-15-0086.1
- [1] Khong, A., **J.K. Wang**, S.M. Quiring, and T.W. Ford, 2015, Soil moisture variability in Iowa. *International Journal of Climatology*, **35**, 2837–2848. doi:10.1002/joc.4176

In-Prep

Wood, C.T., K.R. Johnson, L.E. Lewis, K. Wright, **J.K. Wang**, M.L. Griffiths, A. Borsato, High-resolution, multi-proxy speleothem record of the 8.2 ka event from Mainland Southeast Asia. In prep for *Paleoceanography and Paleoclimatology*.

RESEARCH & COMMUNITY PRESENTATIONS

- [7] **Wang, J.K.** Extreme Weather, Vulnerable Communities, and Past Climate. *Climate Justice Workshop Series*, Bellevue College (Feb 2021). (**Invited** and Remote)
- [6] **Wang, J.K.** Crawling Back in Time: Decoding Past Climate through Cave Deposits. *Science and Math Institute Winter Science Café*, Bellevue College (Feb 2021). (**Invited** and Remote)
- [5] **Wang, J.K.** Investigating Asian monsoon variability over the last two millennia using cave deposits. *Geological Sciences Department*, California State University, Long Beach, CA (Nov 2019). (**Invited**)
- [4] **Wang, J.K.**, K. R. Johnson, M. Griffiths, D. Amaya, A. Borsato, G. M. Henderson, Silvia Frisia, Andrew Mason, Hydroclimatic variability in Southeast Asian over the last two millennia. *American Geophysical Union Annual Meeting* (Dec 2018)
- [3] **Wang, J.K.**, K. R. Johnson, M. Griffiths, G. M. Henderson, Variations in Indo-China Hydroclimate over the Last Two Millennia. *Goldschmidt*, Paris, France (July 2017)
- [2] **Wang, J.K.**, Caves and Climate: Crawling back into the past. *Association of Graduate Students Symposium*, Irvine, CA (Apr 2017)
- [1] **Wang, J.K.** and K. Johnson, Reconstructing Southeast Asian Monsoon variability using speleothems. *UC Irvine Data Science Initiative Summer Research Symposium*, Irvine, CA (Sep 2015). (**Invited**)

Poster Presentations

- [4] **Wang, J.K.**, K. R. Johnson, M. Griffiths, A. Borsato, G. M. Henderson, Reconstruction of Southeast Asian Hydroclimate over the last two millennia. *Summer School on Speleothem Science*, Burgos, Spain. (Aug 2017)
- [3] **Wang, J.K.**, K. R. Johnson, M. Griffiths, G. Henderson, Late Holocene Southeast Asian Monsoon variability inferred from speleothems. *10th Annual Graduate Climate Conference*, Seattle, Washington. (Oct 2016)
- [2] **Wang, J.K.**, S. M. Quiring, and T.W. Ford, Does rain fall preferentially over dry soils (or wet soils)? *American Geophysical Union Annual Meeting*, San Francisco, California. (Dec 2013)
- [1] **Wang, J.K.** A. Khong, S. M. Quiring, and T. W. Ford, Spatial Variability of In Situ Soil Moisture in Iowa. *American Meteorological Society Annual Meeting*, Austin, Texas. (Jan 2013)

PROFESSIONAL MEMBERSHIPS

2021-Current	National Association of Geoscience Teachers (NAGT)
2020-Current	Asian Americans and Pacific Islanders in Geosciences (AAPiG)
2018-Current	International Association for Geosciences Diversity (IAGD)
2016-Current	Earth Science Women's Network (ESWN)
2013-Current	American Geophysical Union (AGU)
2012-Current	American Meteorological Society (AMS)