CURRICULUM VITAE

KELIN WANG
Pacific Geoscience Centre, Geological Survey of Canada
Sidney, British Columbia, Canada
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Employment

1992– Research Scientist, Pacific Geoscience Centre (PGC), Geological Survey of Canada
1999– Adjunct Professor, School of Earth and Ocean Sciences, University of Victoria
1990–1992 Canadian Government Laboratory Visiting Fellow, PGC
1989–1990 Lecturer of Geophysics, University of Western Ontario (Now Western University)

Education

Ph.D. 1989 Geophysics, University of Western Ontario (now Western University), Canada
B.Sc. 1982 Geology, Peking University, China

Research

Kelin Wang uses quantitative modeling of deformation and stresses, thermal structure, and hydrological processes to understand lithospheric behaviour, earthquake mechanics, and the geodynamics of subduction zones. Kelin Wang's fundamental research has been applied globally to understand and mitigate the risk from subduction zone earthquakes and tsunamis.

Honors and Recognition

2018 Outstanding Reviewer, American Geophysical Union
2017 Honorary Research Professor, University of Victoria, Canada
2016 Fellow of the American Geophysical Union
2015 Birch Lecturer, 2015 Fall Meeting of the American Geophysical Union
2015 Awarded J. Tuzo Wilson Medal by the Canadian Geophysical Union
2012 Honorary Professor, Inst. Crustal Dynamics, China Earthquake Administration
2008 Exceptional Reviewer, Geological Society of America

Membership

1985– American Geophysical Union
1985– Canadian Geophysical Union

Selected Key Publications

Wang, K., Y. Zhu, E. Nissen, and Z.-K. Shen (2021). On the relevance of geodetic deformation rates to earthquake potential, *Geophys. Res. Lett., 48*, e2021GL093231.

Luo, H., and K. Wang (2021). Postseismic geodetic signature of cold forearc mantle in subduction zones, *Nature Geosci., 14*, 104–109.

Wang, K., T. Huang, T. Tilmann, S. M. Peacock, and D. Lange (2020). Role of serpentinized mantle wedge in affecting megathrust seismogenic behavior in the area of the 2010 M=8.8 Maule earthquake, *Geophys. Res. Lett., 47*, e2020GL090482.

Wang, K., L. Brown, Y. Hu, K. Yoshida, J. He, and T. Sun (2019). Stable forearc stressed by a weak megathrust: Mechanical and geodynamic implications of stress changes caused by the M=9 Tohoku-oki earthquake, *J. Geophys. Res., 124*, 6179 – 6194.

Wang, K., T. Sun, L. Brown, R. Hino, F. Tomita, M. Kido, T. Iinuma, S. Kodaira, and T. Fujiwara (2018). Learning from crustal deformation associated with the M=9 2011 Tohoku-oki earthquake, *Geosphere, 14*(2) (THEMED ISSUE: Subduction Top to Bottom 2), 552–571.

Wang, K., and G. C. Rogers (2017). Beating fear with hope: On sustaining earthquake preparedness, *Seismol. Res. Lett.*, *88*(1), 171–176.
Gao, X., and K. Wang (2017). Rheological separation of the megathrust seismogenic zone and Episodic Tremor and Slip, *Nature*, *543*, 416–419.
Sun, T., K. Wang, T. Fujiwara, S. Kodaira, and J. He (2017). Large fault slip peaking at trench in the 2011 Tohoku-oki earthquake, *Nature Commun.*, *8*, 14044.
Wang, K., and A. M. Tréhu (2016). Some outstanding issues in the study of great megathrust earthquakes – the Cascadia example, *J. Geodyn.*, *98*, 1–18.
Wang, K., and S. L. Bilek (2014). Fault creep caused by subduction of rough seafloor relief, *Tectonophys.*, *610*, 1-24.
Gao, X., and K. Wang (2014). Strength of stick-slip and creeping subduction megathrusts from heat flow observations, *Science*, *345*, 1038-1041.
Sun, T., K. Wang, T. Iinuma, R. Hino, J. He, H. Fujimoto, M. Kido, Y. Osada, S. Miura, Y. Ohta, and Y. Hu (2014). Prevalence of viscoelastic relaxation after the 2011 Tohoku-oki earthquake, *Nature*, *513*, 84-87.
Wang, K., Y. Hu, and J. He (2012). Deformation cycles of subduction earthquakes in a viscoelastic Earth, *Nature*, *484*, 327-332.
Wang, K., and S. L. Bilek (2011). Do subducting seamounts generate or stop large earthquakes? *Geology*, *39*, 819–822.
Chen, Q.-F., and K. Wang (2010). The 2008 Wenchuan earthquake and earthquake prediction in China, *Bull. Seismol. Soc. Am.*, *100*(5B), 2840–2857, 2010.
Wada, I., and K. Wang (2009). Common depth of slab-mantle decoupling: Reconciling diversity and uniformity of subduction zones, *Geochem. Geophys. Geosyst.*, *10*(10), Q10009.
Wada, I., K. Wang, J. He, and R. D. Hyndman (2008). Weakening of the subduction interface and its effects on surface heat flow, slab dehydration, and mantle wedge serpentinization, *J. Geophys. Res.*, *113*, B04402, doi:10.1029/2007JB005190.
Wang, K., and Y. Hu (2006), Accretionary prisms in subduction earthquake cycles: The theory of dynamic Coulomb wedge, *J. Geophys. Res.*, *111*, B06410, doi:10.1029/2005JB004094.
Wang, K., Q.-F. Chen, S. Sun, and A. Wang (2006). Predicting the 1975 Haicheng earthquake, *Bull. Seismol. Soc. Am.*, *96*(3), 757-795.
Satake, K., K. Wang, and B. F. Atwater (2003). Fault slip and seismic moment of the 1700 Cascadia earthquake inferred from Japanese tsunami descriptions, *J. Geophys. Res.*, *108*(B11), 2535.
Dragert, H., K. Wang, and T. S. James (2001), A silent slip event on the deeper Cascadia subduction interface, *Science*, *292*, 1525-1528.
Peacock, S. M., and K. Wang (1999), Seismic consequences of warm versus cool subduction metamorphism: Examples from Southwest and Northeast Japan, *Science*, *286*, 937-939.
Wang, K. and E. E. Davis (1996), Theory for the propagation of tidally induced pore pressure variations in layered subseafloor formations, *J. Geophys. Res*, *101*, 11,483-11,495.
Wang, K., T. Mulder, G. C. Rogers, and R. D. Hyndman (1995), Case for very low coupling stress on the Cascadia subduction fault, *J. Geophys. Res.*, *100*, 12,907-12,918.
Hyndman, R. D. and K. Wang (1993), Thermal constraints on the zone of major thrust earthquake failure – the Cascadia subduction zone, *J. Geophys. Res.*, *98*, 2039-2060.
Wang, K. and T. J. Lewis (1992), Geothermal evidence from Canada for a cold period before recent climatic warming, *Science*, *256*, 1003-1005.