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Education

Ph.D., Geophysics, University of Colorado at Boulder, CO, August 2000.

Dissertation: Pattern Dynamics in Southern California Seismicity, with an appendix entitled Genetic Algorithm Applications to Geophysical Inverse Problems. Advisor: Dr. J.B. Rundle.

M.S., Civil Engineering, Structural Engineering, Stanford University, Stanford, CA, 1984.

B.S., Civil Engineering, second major in geology, Tufts University, Medford, MA, 1983, *summa cum laude*.

Professional Experience

Director, Earth Science and Observation Center (ESOC) & Professor, Department of Geological Sciences, Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado Boulder, Boulder, Colorado, 80309 USA, August 2015-present.

Full Professor, Department of Earth Sciences, University of Western Ontario, London, Ontario, Canada, July 2012-June 2015.

Associate Chair, Department of Earth Sciences, University of Western Ontario, London, Ontario, Canada, July 2013-July 2014.

Assistant/Associate Professor, Department of Earth Sciences, University of Western Ontario, London, Ontario, Canada, September 2003-June 2013.

Visiting Scholar, Universidad Complutense, Instituto de Astronomia y Geodesia, Madrid, Spain, Fall 2002 - Spring 2003.

Research Associate, Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado at Boulder, Fall 2000-Summer 2003.

Teaching Assistant, Fractals: Order & Chaos in a Complex World, Departments of Physics and Geology, University of Colorado, Spring 2002.

Senior Project Engineer, GS-12, U.S. Army Corps of Engineers, New England Division, 1988-1994.

Project Engineer, GS-11, U.S. Army Corps of Engineers, New England Division, 1984-1988.

Certifications & Awards

Outstanding Achievement Award, Tufts Civil and Environmental Engineering Department, 2020
Meritorious Service Award, Canadian Geophysical Union, 2017.

Faculty Scholar, University of Western Ontario, 2011-2013.

NSERC and Aon Benfield/ICLR Industrial Research Chair in Earthquake Hazard Assessment, 2006-2012.

Professional Engineer, State of Connecticut, 1990-1995.

CIRES Graduate Research Fellow, 1999-2000.

General Electric Foundation Fellowship, Stanford University, 1983-1984.

Robert L. Nichols Award, Geological Sciences, Tufts University, 1983.

BSCE/ASCE Howard P. Morse Award, Tufts University, 1983.

Tau Beta Pi, Tufts University, 1983.

Publications

- Zhang, M., Chen, Z., Wang, J., Kar, B., Pierce, M., Tiampo, K., Eguchi, R., Glasscoe, M. **Optical Remote Sensing for Global Flood Disaster Mapping: A Critical Review towards Operational Readiness**, *Remote Sensing*, in revision, January 2025.
- Mondal, S.K., Bharti, R., Tiampo, K.F. **Seismic deformation of Himalayan glaciers using synthetic aperture radar interferometry**, *Remote Sensing*, in revision, January 2025.
- Johnson, J., Heijkoop, E., Nerem, R.S., Willis, M.J., Tiampo, K.F. **Quantifying combined impacts of vertical land motion and sea level rise on urban flood risk: A case study of Lagos**, *Nature Sustainability*, submitted January 2025.
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- Fernández, J., Escayo, J., Prieto, J.F., Tiampo, K.F., Camacho, A.G., Ancochea, E. **Volcanic unrest after the 2021 eruption of La Palma**. *Geophysical Research Letters*, 51, e2024GL108803. <https://doi.org/10.1029/2024GL108803>, 2024.
- Chambers, C., Brown, M.R.M., Stokes, S., Ge, S., Menezes, E.A., Tiampo, K.F., Sheehan, A.F., **Surface deformation and seismicity linked to fluid injection in the Raton Basin**, *Groundwater*, doi:10.1111/gwat.13393, 2024.
- Prager, F., Mendoza, M.T., Huyck, C.K., Rose, A., Amyx, P., Yetman, G., Tiampo, K.F. **Applying Earth observation technologies to economic consequence modeling: A case study of COVID-19 in Los Angeles County**, *SSRN*, doi:10.2139/ssrn.4543235, 2024.
- Huang, L., Willis, M.J., Li, G., Lantz, T.C., Wig, E., Schaefer, K., Cao, G., Tiampo, K.F. **Identifying active retrogressive thaw slumps in the pan-Arctic from ArcticDEM**, *ISPRS Journal of Photogrammetry and Remote Sensing*, doi:10.1016/j.isprsjprs.2023.10.008, 2023.
- Culler, E., Livneh, B., Rajagopalan, B., Tiampo, K. **A data-driven evaluation of post-fire landslide susceptibility**, *Natural Hazards and Earth System Science*, doi:10.5194/nhess-23-1631-2023, 2023.
- Miguelsanz, L., Fernández, J., Prieto, J.F., Tiampo, K.F. **Tidal modulation of the seismic activity related to the 2021 La Palma volcanic eruption**, *Nature Scientific Reports*, doi:10.1038/s41598-023-33691-1, 2023.
- Stokes, S.M., Ge, S., Brown, M.R.M., Menezes, E.A., Sheehan, A.F., Tiampo, K.F. **Pore pressure diffusion and onset of induced seismicity**, *Journal of Geophysical Research*, doi:10.1029/2022JB026012, 2023.
- Fernández, J., Escayo, J., Camacho, A.G., Palano, M., Prieto, J.F., Hu, Z., Samsonov, S.V., Tiampo, K.F., Ancochea, E. **Shallow magmatic intrusion evolution below La Palma before and during the 2021 eruption**, *Nature Scientific Reports*, doi:10.1038/s41598-022-23998-w, 2022.
- Barba-Sevilla, M., Glasscoe, M.T., Parker, J., Lyzenga, G.A., Willis, M.J., Tiampo, K.F. **High-resolution finite fault slip inversion of the 2019 Ridgecrest earthquake using 3D finite element modeling**, *Journal of Geophysical Research*, doi:10.1029/2022JB024404, 2022.
- Jacquemart, M., Leopold, M., Welty, E., Lajoie, L., Loso, M., Tiampo, K. **Fingerprinting the geomorphic signatures of catastrophic glacier detachments: A first assessment from Flat Creek, Alaska**, *Geomorphology*, doi:10.1016/j.geomorph.2022.108376, 2022.
- Huang, L., Lantz, T.C., Fraser, R.H., Tiampo, K.F., Willis, M.J., Schaefer, K. **Accuracy, efficiency, and transferability of a deep learning model for mapping retrogressive thaw slumps across the Canadian Arctic**, *Remote Sensing*, 14, 2747, doi:10.3390/rs14122747, 2022.

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- Corsa, B., Barba, M., Tiampo, K.F., Meertens, C. **Integration of DInSAR time series and GNSS data for continuous volcanic deformation monitoring and eruption early warning applications**, *Remote Sensing*, doi:10.3390/rs14030784, 2022.
- Corsa, B., Jacquemart, M., Willis, M., Tiampo, K.F. **Characterization of large tsunamigenic landslide and their effects using digital elevation models: A case study from Taan Fiord, Alaska**, *Remote Sensing of the Environment*, doi:10.1016/j.rse.2021.112881, 2022.
- Samsonov, S.V., Tiampo, K.F., Cassotto, R. **Measuring the state and temporal evolution of glaciers in Alaska and Yukon using synthetic-aperture-radar-derived (SAR-derived) 3D time series of glacier surface flow**, *Cryosphere*, doi:10.5194/tc-15-4221-2021, 2021.
- Culler, E., Badger, A., Minear, T., Zeigler, S., Tiampo, K., Livneh, B. **A multi-sensor evaluation of precipitation uncertainty for landslide-triggering storm events**, *Hydrologic Processes*, doi:10.1002/hyp.14260, 2021.
- Hill, A. F., Jacquemart, M., Gold, A.U., Tiampo, K. **Changing the culture of fieldwork in the geosciences**, *EOS*, 102, doi:10.1029/2021EO158013, 06 May 2021.
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- Kelevitz, K., Corsa, B., Tiampo, K.F. **Improved real-time natural hazard monitoring using automated DInSAR time series**, *Remote Sensing*, 13(867), doi:10.3390/rs13050867021, 2021.
- Jacquemart, M., Tiampo, K. **Leveraging time series analysis of radar coherence and normalized difference vegetation index ratios to characterize pre-failure activity of the Mud Creek landslide, California**, *Natural Hazards and Earth System Science*, doi:10.5194/nhess-21-629-2021, 2021.
- Fernández, J., Escayo, J., Hu, Z., Camacho, A.G., Luzón, F., Samsonov, S.V., Prieto, J.F., Tiampo, K.F., Palano, M., Mallorqui, J., Ancochea, E. **Detection of volcanic unrest onset in La Palma, Canary Islands, time evolution and implications**, *Nature Scientific Reports*, doi:10.1038/s41598-021-82292-3, 2021.
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- Jacquemart, M., Loso, M., Leopold, M., Berthier, E., Welty, E., Hansen, J.S.S., Sykes, J., Tiampo, K. **Does climate change increase the likelihood of large-scale glacier detachments? Insights from Flat Creek Glacier, St. Elias Mountains, Alaska**, *Geology*, doi:10.1130/G47211.1, 2020.
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- González, P.J., Singh, K.D., Tiampo, K.F. **Shallow hydrothermal pressurization prior to 2010 Mount Sinabung volcano, Indonesia eruption observed with ALOS satellite radar interferometry**, *PAGEOPH*, doi:10.1007/s00024-014-0915-7, 2014.
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Invited Speaker

- Tiampo, K., **Radar Remote Sensing and Big Data Analysis: A New Paradigm in Earth Surface Monitoring**, Keynote address, Third International Conference on Paradigms of Communication, Computing and Data Sciences (PCCDS 2022), online, July 2022.
- Tiampo, K., **Advanced Flood Extent Detection Algorithms Applied to Sentinel 1A/B Synthetic Aperture Radar Data**, Western & ICLR Multi-hazard Risk and Resilience (HRR) Workshop, Nov. 2021.
- Tiampo, K., Woods, C., Huang, L., Sharma, P., Chen, Z., Kar, B., Bausch, D., Simmons, C., Estrada, R., Willis, M., Glasscoe, M. **A Machine Learning Approach to Flood Depth and Extent Detection Using Sentinel 1A/B Synthetic Aperture Radar**, IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2021), July 2021.
- Tiampo, K.F., and multiple collaborators, **DInSAR analysis of infrastructure and induced seismicity**, invited talk, Denver Geophysical Society, Denver, CO, July 2018.
- Tiampo, K.F., and multiple collaborators. **Characterizing infrastructure hazard using DInSAR**, invited talk, Geological Remote Sensing Group Oil and Gas Remote Sensing Workshop, Boulder, CO, July 2018.
- Tiampo, K.F., and multiple collaborators. **Remote sensing of natural and anthropogenic hazards**, Invited talk, INSTAAR, Boulder, CO, April 2018.
- Tiampo, K.F., and multiple collaborators. **Remote sensing of natural and anthropogenic hazards**, Invited talk, NOAA NCEI, Boulder, CO, March 2018.
- Tiampo, K.F., Kazemian, J., Dominguez, R., Serino, C., González, P.J., Klein, W., **What can simple models tell us about earthquake fault systems?** Invited talk, Stanford Complexity Group Symposium, Stanford, CA, 2017.
- Tiampo, K.F., McKee, C., González, P.J., Samsonov, S. Alipour, S., Fernández, J., Camacho, A., **InSAR analysis of natural and anthropogenic hazards**, Pacific Geoscience Center, Sidney, BC, Canada, November 2015.
- Tiampo, K.F. **Better understanding of natural and anthropogenic hazards using InSAR techniques**, Heiland Lecture, Colorado School of Mines, Golden, CO, March 2016.
- Tiampo, K.F., McKee, C., González, P.J., Samsonov, S. Alipour, S., Fernández, J., Camacho, A., **InSAR analysis of natural and anthropogenic hazards**, Department of Geological Sciences, University of Colorado, October 2015.
- Tiampo, K.F., Samsonov, S., González, P.J., d'Orey, N., Fernández, J., Camacho, A. **Advanced DInSAR time series analysis of natural and anthropogenic hazards**, IGARSS, Québec City, Québec, Canada, July 2014.
- Tiampo K.F., Samsonov S., *González P.J., *Alipour S. **Quadpol InSAR analysis of earthquake hazard on the Hayward fault, CA**, IGARSS, Québec City, Québec, Canada, July 2014.
- Tiampo, K.F. **Advanced geodetic remote sensing analysis of natural and anthropogenic hazards**, New Horizons in Science. Joint Symposia: Royal Society of Canada, National Academy of Sciences, Mexican Academy of Science, Mexico City, Mexico, June 2014.
- Tiampo, K.F. **Space-time patterns in seismicity, and implications for forecasting and preparedness**, Montpelier Re, Pembroke, Bermuda, October 2013.
- Tiampo, K.F., González, P.J., Samsonov, S. **Investigation of aseismic creep on the Hayward fault, CA, using advanced polarized DInSAR methods**, IAMG, Madrid, Spain, September 2013.

- Tiampo, K.F. **Linking strain and seismicity for earthquake hazard estimation**, ICLR Workshop, Toronto, November 2012.
- Tiampo, K.F. **Earthquake Risk in Canada: Past, Present & Future**. A CPD Seminar for Actuaries on Earthquake Risk, June 2012.
- Tiampo, K.F. **Physics-based earthquake forecasting: Past, present and future**, Guy Carpenter Executive Reinsurance Seminar, Seattle, Washington, 2011.
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Other Scholarly Activities

Member, WInSAR Executive Committee, 2017-2024.

Chair, WInSAR Executive Committee, 2019-2021.

Associate Editor, *Earth and Space Science*, AGU/Wiley journal, 2019-present.

2019 NASA Decadal Survey Incubation Study Team: Surface Topography and Vegetation (STV) review panel, October 2019.

Advisory Board member, NSERC UTILI proposal, UAV_CREATE, 2019-present.

Review panel, 2019 NASA Decadal Survey Incubation Study Team: Surface Topography and Vegetation (STV) review panel, October 2019.

Review Panel, NSF, Harnessing the Data Revolution (HDR): Institutes for Data-Intensive Research in Science and Engineering - Ideas Labs (I-DIRSE-IL), March 2019.

AGU Fellows review committee, Union Joint Sections, Nonlinear Geophysics Section representative, 2019.

Guest editor, *Remote Sensing*, special issue, InSAR for Earth Observation, 2018-present.

Member, Alaska Satellite Facility (ASF) DAAC User Working Group (UWG), 2016-present.

NSERC Discovery Grant Geosciences Evaluation Group (EG1506), 2017-2018.

CGU Awards chair, May 2014-2017.

NSERC RTI Evaluation Group (EG1506), 2015-2016.

AGU Geodesy Section representative to the AGU Spring Meeting, 2015-2016.

NSERC Geosciences Evaluation Group (EG1506), 2011-2014.

Guest Editor, *Pure and Applied Geophysics*, special issue from the Seventh ACES Conference on Earthquakes, 2011-2012.

First president of the Solid Earth Section, Canadian Geophysical Union, 2009-2011.

Selection Committee, Donald L. Turcotte Award, Nonlinear Geophysics Committee, American Geophysical Union, Fall 2008-2018 (not all years).

Canadian representative to the Asia-Pacific Economic Cooperative (APEC) Cooperation for Earthquake Simulation (ACES), 2007-present.

Member, Portable Observatories for Lithospheric Analysis and Research Investigating Seismicity (POLARIS) Steering Committee, 2006-2011.

Guest Editor, *Pure and Applied Geophysics*, special issue from the Fifth ACES Conference on Earthquakes and Tsunamis, 2006-2008.

Guest Editor, *Tectonophysics*, special issue, Critical Point Theory and Space-Time Pattern Formation in Precursory Seismicity, 2004-2006.

Member, Canadian Geophysical Union, 2000-present.

Member, Seismological Society of America, 1995-present.

Member, American Geophysical Union, 1995-present.