

# Curriculum Vitae

## PERSONAL INFORMATION

Estelle Chaussard  
Department of Earth Sciences, University of Oregon  
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Campus address:  
305A Cascade Hall, Eugene, OR 97403

## RESEARCH INTERESTS

Development and usage of **space geodetic techniques** to detect small movements of the Earth's surface and define the risks associated. Improve our understanding of the physical processes associated with **geohazards** and exploitation of natural **resources**.

Specialties: Geophysics, Remote Sensing, Geomorphology, Volcanology, Hydrology, and Active Tectonic.

## EDUCATION

- 2013 U. of Miami, Miami, FL  
Ph.D. in Geology & Geophysics: *Characterization of volcanic and land subsidence hazards at regional scales: contributions from space geodesy*
- 2008 U. of Montpellier II, Montpellier (France)  
M.Sc. in Earth Sciences, *magna cum laude*
- 2006 U. of Montpellier II, Montpellier (France)  
B.Sc. in Earth Sciences, *summa cum laude*
- 2005 U. of Burgundy, Dijon (France)  
B.Sc. in Biology, *magna cum laude*

## PROFESSIONAL EXPERIENCE

- 2019– Assistant Professor, Dept. of Earth Sciences, U. of Oregon
- 2015–2018 Assistant Professor, Dept. of Geology, U. at Buffalo
- 2013–2015 Postdoctoral investigator, U. of California, Berkeley
- 2011–2013 NASA Earth and Space Science Graduate Fellow, U. of Miami
- 2008–2011 Graduate Research Assistant, U. of Miami
- 2006–2008 Graduate Research Assistant, U. of Montpellier II (France)

## AWARDS

- 2019 Outstanding Reviewer for *Environmental Research Communications*
- 2016 SUNY Buffalo Julian Park Award for *New Faculty Publication*
- 2014 International KACST-KAUST-JCCP workshop *Presenter Award*
- 2012 American Geophysical Union *Outstanding Student Paper Award*
- 2012 National Science Foundation Cities on Volcanoes *Student Award*

## PEER-REVIEWED PUBLICATIONS

h-index: 15/ i10-index: 17/ Citations: 1290 - Publications #1-7: PhD; #8-12: postdoc; #13+: tenure track  
\*\*Student first-author under direct advising \*Collaboration with student first-author

### *In preparation*

Chaussard E., (in prep). Book (solicited): Remote sensing applications to geohazards and natural resources, Springer.

### *In Review*

Chaussard, E., Havazli, E., Fattahi, H., Crabral-Cano, E. (in review, *JGR-Solid Earth* since July 2020) Over a Century of Sinking in Mexico City: No Hope for Elevation, Water Levels, and Water Quality Recovery.

### ***Accepted***

- Barnhart, W.D., and Chaussard, E. (Accepted) The Seismic Cycle: From Observations to Models of Fault Slip, in *Remote sensing applications to geohazards and natural resources*, TBD, ed. by Chaussard E., Springer, TBD.
- Chen, J., and Chaussard, E. (Accepted) Remote sensing for tracking groundwater resources in *Remote sensing applications to geohazards and natural resources*, TBD, ed. by Chaussard E., Springer, TBD.
- Fu, Y., Thomas, B.F., and Chaussard, E. (Accepted) Large-Scale Terrestrial Water Storage Changes Sensed by Geodesy in *Remote sensing applications to geohazards and natural resources*, TBD, ed. by Chaussard E., Springer, TBD.
- Vellico, M., and Chaussard, E. (Accepted) Carbon Capture and storage in *Remote sensing applications to geohazards and natural resources*, TBD, ed. by Chaussard E., Springer, TBD.

### ***Published***

25. Hoyt, A.\*\*., Chaussard E., Seppalainen, S.S., Harvey, C.F., Widespread Subsidence and Carbon Emissions across Southeast Asian Peatlands. *Nature Geoscience*, 13, 435–440. <https://doi.org/10.1038/s41561-020-0575-4>
24. Chaussard, E., & Farr, T. G., (2019). A new method for isolating elastic from inelastic deformation in aquifer systems: Application to the San Joaquin Valley, CA. *Geophysical Research Letters*, 46, 10800– 10809. <https://doi.org/10.1029/2019GL084418>
23. Schaefer, L.N.\*, Di Traglia, F., Chaussard, E., Lu, Z., Nolesini, T., Casagli N., (2019). Monitoring volcano slope instability with Synthetic Aperture Radar: A review and new data from Pacaya (Guatemala) and Stromboli (Italy) volcanoes. *Earth-science reviews*, 192, pp236-257, <https://doi.org/10.1016/j.earscirev.2019.03.009>
22. Xu, W.\*, Wu, S., Materna, K., Nadeau, R., Floyd, M., Funning, G., Chaussard, E., Johnson, C.W., Murray, J.R., Ding, X. and Bürgmann, R. (2018), Interseismic ground deformation and fault slip rates in the greater San Francisco Bay Area from two decades of space geodetic data, *JGR-Solid Earth*, 123(9), 8095-8109, doi: 10.1029/2018JB016004
21. Cohen-Waeber, J.\*\*., Burgmann, R., Chaussard, E., Giannico, C., and Ferretti, A. (2018), Spatiotemporal Patterns of Precipitation-Modulated Landslide Deformation from Independent Component Analysis of InSAR Time Series, *Geophysical research Letters*, 64(1), 70, doi:10.1016/j.enggeo.2014.03.003
20. Castellazzi, P.\*, Longuevergne, L., Martel, R., Rivera, A., Brouard, C., Chaussard, E., Garfias, J. (2018) Combining GRACE and InSAR for quantitative mapping of groundwater depletion at the water management scale, *Rem. Sens. Env.*, 205, 408–418, doi:10.1016/j.rse.2017.11.025
19. Zhan, Y.\*, Gregg, P.M., Chaussard, E., and Aoki., Y. (2017) Sequential assimilation of volcanic monitoring data to quantify eruption potential: application to Kerinci volcano, Sumatra. *Front. Earth Sci.* 5:108. doi: 10.3389/feart.2017.00108
18. Chaussard, E., Milillo P., Bürgmann R., Perissin D., Fielding E. J. & Baker B., (2017). Remote sensing of ground deformation for monitoring groundwater management practices: application to the Santa Clara Valley during the 2012-2015 California drought. *Journal of Geophysical Research*, 122, 8566-8582. doi.org/10.1002/2017JB014676
17. Chaussard, E., (2017). A low-cost method applicable worldwide for remotely mapping lava dome growth. *J. Volcan. geotherm. Res.* 341, 33-4, doi.org/10.1016/j.jvolgeores.2017.05.017
16. Castellazzi, P.\*, Martel, R., Rivera, A., Huang, J., Pavlic, G., Calderhead, A. I., Chaussard, E., Garfias, J., and Salas, J., (2016), Groundwater depletion in Central Mexico: Use of GRACE and InSAR to support water resources management, *Water Resources Res.*, 52, (8), 5985-6003.
15. Chaussard, E., (2016) Subsidence in the Parícutin lava field: causes and implications for interpretation of deformation fields at volcanoes. *J. Volcan. geotherm. Res.*, 320, 1-11.

14. Chaussard, E., Johnson, C.W., Fattahi, H., and Bürgmann, R., (2016) Potential and limits of InSAR to characterize interseismic deformation independently of GPS data: application to the southern San Andreas Fault system. *G-cubed*, 17, doi:10.1002/2015GC006246
13. Chaussard, E., Kerosky, S.\*\* (2016) Characterization of Black Sand Mining Activities and Their Environmental Impacts in the Philippines Using Remote Sensing. *Remote Sensing*, 8(2), 100; doi:10.3390/rs8020100
12. Chaussard, E., Bürgmann, R., Fattahi, H., Johnson, C. W., Nadeau, R., Taira, T., and Johanson, I., (2015) Interseismic coupling and refined earthquake potential on the Hayward-Calaveras fault zone, *J. of Geophysical Research*, 120, doi:10.1002/2015JB012230
11. Chaussard, E., Bürgmann R., Fattahi, H., Nadeau, R., Taira, T., Johnson, C.W., and Johanson, I., (2015) Potential for larger earthquakes in the East San Francisco Bay Area due to the direct connection between the Hayward & Calaveras Faults, *Geophys. Res. Lett.*, 42, doi: 10.1002/2015GL063575
10. Fattahi, H.\*, Amelung, F., Chaussard, E., Wdowinski, S., (2015) Coseismic and postseismic deformation due to the 2007 M5.5 Ghazaband fault earthquake, Balochistan, Pakistan. *Geophys. Res. Lett.*, 42, doi:10.1002/2015GL063686
9. Cabral-Cano, E., Solano-Rojas, D., Oliver-Cabrera, T., Wdowinski, S., Chaussard, E., Salazar-Tlaczani, L., Cigna, F., Demets, C., and Pacheco-Martínez, J., (2015) Satellite geodesy tools for ground subsidence and associated shallow faulting hazard assessment in central Mexico, *Proceedings of the Int. Assoc. of Hydro. Sc.*, 372, 255–260, doi:10.5194/piahs-372-255-2015
8. Chaussard, E., Bürgmann, R., Shirzaei, M., Fielding, E.J., and Baker, B., (2014) Predictability of hydraulic head changes and basin-wide aquifer system and fault characterization from InSAR-derived ground deformation. *J. of Geophysical Research*, 119, 6572–6590, doi: 10.1002/2014JB011266
7. Chaussard, E., and Amelung, F., (2014) Regional controls on magma ascent and storage in volcanic arcs. *G-cubed*, 15, doi:10.1002/2013GC005216
6. Chaussard, E., Wdowinski, S., Cabral E., and Amelung, F., (2014). Land subsidence in central Mexico detected by ALOS InSAR time-series, *Rem. Sens. of Env.*, 140, 94–106
5. Chaussard, E., Amelung, F., Abidin, H., & Hong, S.-H., (2013) Sinking cities in Indonesia: ALOS PALSAR detects rapid subsidence due to groundwater and gas extraction. *Remote Sensing of Environment*, 128, 21, 150-161, doi:10.1016/j.rse.2012.10.015
4. Chaussard, E., and Amelung F., (2013) Characterization of Geological Hazards Using a Globally Observing Spaceborne SAR. *Photogram. Eng. & Rem. Sens.*, 79, 11, 982-986
3. Chaussard, E., Amelung, F., and Aoki, Y., (2013) Characterization of closed and open volcanic systems in Indonesia and Mexico using InSAR time-series. *J. of Geophysical Research*, 118, doi:10.1002/jgrb.50288
2. Chaussard, E., & Amelung F., (2012) Precursory inflation of shallow magma reservoirs at west Sunda volcanoes detected by InSAR. *Geophys. Res. Lett.*, 39, 21, doi: 10.1029/2012GL053817
1. Chaussard, E., Amelung, F., and Abidin, H., (2012) Sinking cities in Indonesia: space-geodetic evidences of the rates and spatial distribution of land subsidence. *Proceedings of the FRINGE 2011 Workshop*, Frascati, Italy (ESA SP-696)

## OTHER PUBLICATIONS

9. Chaussard, E., et al. (2020) NSF Whitepaper: InSAR in a Future Geophysical Facility.
8. Stamps, D.S., et al. (2020) NSF Whitepaper: An Early Career Investigator Community Vision for the Future NSF Geophysical Facility: Instrumentation Services Needs.

7. Ford, H.A., et al. (2020) NSF Whitepaper: An Early Career Investigator Community Vision for the Future NSF Geophysical Facility: Data Services Needs.
6. Evans, E.L., et al. (2020) NSF Whitepaper: An Early Career Investigator Community Vision for the Future NSF Geophysical Facility: Education, Workforce, and Outreach Needs.
5. Chaussard, E., (2019) Research Frontiers in Characterizing Groundwater Aquifers; National Academies of Sciences, Engineering, and Medicine. 2019. *Groundwater Recharge and Flow: Approaches and Challenges for Monitoring and Modeling Using Remotely Sensed Data: Proceedings of a Workshop*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25615>.
4. Aster, R., Simons, M., Burgmann, R., Gomez, N., Hammond, B., Holbrook, S., Chaussard, E., Stearns, L., Egbert, G., Hole, J. and Lay, T., Future geophysical facilities required to address grand challenges in the earth sciences (2015). *National Science Foundation*, 52 p.
3. Chaussard, E., (2013) Characterization of volcanic and land subsidence hazards at regional scales: contributions from space geodesy. *Ph.D. Dissertation, U. of Miami*
2. Chaussard, E., (2008). Estimation of the forces involved in the current dynamic of the western United States. *M.S. Thesis, U. of Montpellier II, Montpellier, France*
1. Chaussard, E., (2007). Reconciling geodetic and geologic estimates of the Altyn Tagh Fault's slip rate, Tibet. *M.S. Thesis, U. of Montpellier II, Montpellier, France*.

## FUNDING AND GRANTS

**Funded** - total grant funding: \$902,343

U. of Oregon Resilience Initiative Funding: co-PI, \$48,650. An Innovative Collaborative Research Network Focused on the Human Dimension of Environmental Change in SE Asia (2019).

U. of Oregon, Early Career Faculty Grant: PI, \$5,000 Spatial extent and trajectory of subsidence and CO2 emissions across southeast Asia peatlands (2019).

NASA Earth Surface and Interior NNH18ZDA001N-ESI A.24 – 18-ESI18-0058: PI, \$494,037, Using 25 years of deformation due to groundwater extraction in the Central Valley to characterize time-dependent aquifer properties and quantify the associated stress change on faults (2019-2022)

USGS Earthquake Hazards Program – G16AP00007: PI, \$169,474, Interseismic coupling of the north San Francisco Bay faults from InSAR, GPS, and seismic data: collaborative research with UC Berkeley and USGS Menlo Park (2016 -2018)

U. at Buffalo, RENEW Seed grant: PI, \$30,182, Towards improving the sustainability of urban infrastructures and groundwater usage in growing cities (2017-2018)

U. at Buffalo, Vice President for Research and Economic Development (OVPRED): PI, \$150,000, Towards InSAR everywhere all the time (2017)

U. of California Berkeley Center for Effective Global Action (CEGA) Award: PI, \$5,000, Remote Sensing of Illegal Black Sand Mining in the Philippines (2014-2015)

NASA - Earth and Space Science Fellowship (NESSF): PI, Ph.D. Fellowship. Testing hypotheses about the depth of magma chambers in volcanic arcs using ALOS PALSAR (2011 -2014).

## Pending

NSF CAREER Geomorphology and Land-use Dynamics: PI, Peatland Geomorphology: Quantifying Geomorphological Changes across Southeast Asia Peatlands. 5 years, total cost of \$636,991 – recommended for funding

NASA New Investigator Program: PI, For peat's sake: improving our understanding of tropical peatlands' dynamic through integration of remote sensing data 3 years, total cost of 374,712

NASA Carbon Monitoring System: PI, Past, present, and future CO<sub>2</sub> emissions due to oxidation of degraded peatlands in SE Asia. 3 years, total cost of \$452,265

Oregon Department of Transportation: PI, A statewide, semi-real time automatic landslide identification and likelihood-forecast system from remote sensing data.

## **Declined**

**2020:** NSF - Critical Zone Observatories: co-PI, \$1,086,118. Collaborative Research: Network Cluster: Linking Critical Zone Development to Bedrock Landsliding.

**2019:** NASA ESI: PI, \$470,774. Spatial extent and trajectory of subsidence and CO<sub>2</sub> emissions across southeast Asia peatlands. Review: VG/G

NSF Hydrology: co-PI, \$193,858. Collaborative Research (with Tom Burbey, Virginia Tech): A new approach to aquifer characterization: horizontal and vertical deformation as a tool to resolve aquifer and concealed fault properties. Review: VG, VG, VG, F

**2018:** NASA ESI: PI, \$339,996. Bridging Earth Systems with InSAR: from characterization of geohazards to contribution of CO<sub>2</sub> estimates due to peat oxidation across SE Asia. Review: VG

NASA NISAR-Science Team: PI, \$353,207. NISAR applications to groundwater resources characterization. Review: VG/G

**2017:** NASA Carbon Monitoring systems: PI, \$205,191. From characterization of Geohazards to CO<sub>2</sub> emissions: bridging Earth Systems to improve subsidence, flooding, and fire hazards assessment in peatlands of Southeast Asia. Review: G

**2016:** NSF Geophysics: PI, \$143,388. Characterizing the dynamics of open-system volcanoes and refining the associated hazards using new methods to measure near-summit deformation and lava dome growth. Reviews: G, G, E, F

**2015:** NSF Geophysics: PI, \$143,388 Uncovering earthquake-volcano interactions: Learning about volcanic processes from a global perspective with integrated remote-sensing data. Reviews: VG, G, VG, E

## **TEACHING AND MENTORING**

### **Courses taught**

#### Undergraduate

- Earth Surface and Environment (ERTH 202) U. of Oregon, **remote class and labs**
  - Spring 2020 (Remote)
- Geology for Engineers (GLY-103), School of Engineering, Buffalo, **new & service class**
  - Spring 2018, Spring 2017
- Natural hazards past, present & future (GLY-198), U. at Buffalo, **new & service class**
  - Spring 2018, Spring 2017, Fall 2016
- Field Camp (GLY-407), U. at Buffalo
  - Summer 2018, Summer 2016
- Physical Oceanography, U. of Miami, Teaching Assistant
  - Fall 2010, Fall 2009

#### Graduate

- Monitoring the Earth (ERTH-410/510), U. of Oregon, **new, taught in person and online**
  - Fall 2020 (Remote), Winter 2019
- Geological Hazards and Risks (GLY-428/528), U. at Buffalo
  - Spring 2017, Spring 2016
- Scientific writing and communication, U. of Miami, **new class**
  - Spring 2013

## Graduate thesis advisor and co-advisor

Rebecca Bussard	PhD candidate	U. of Oregon, 2018–
Renee Nassif	PhD candidate	U. of Oregon, 2018–
Julien Cohen-Waeber	PhD completed	U. of California Berkeley, 2018
Allison Hoyt	PhD completed	MIT, 2017
Sara Kerosky	PhD completed	U.C. San Diego, 2018
Erin Girven	MSc completed	U. at Buffalo, 2017–2019
Jennifer Cramer	MSc completed	U. at Buffalo, 2016–2018
Erika Dohring	MSc completed	U. at Buffalo, 2015–2017

## Postdoc advising/co-advising

Wenbin Zu	UC Berkley 2018-2020
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## Graduate thesis committee member (\*=reporter)

Annika Dechert	PhD, U. of Oregon	2020–
David Small*	PhD, U. of Oregon	2020–
Lissie Connors*	PhD, U. of Oregon	2020–
Nicole Abib	PhD, U. of Oregon	2020–
PJ Zrelak	MSc, U. of Oregon	2020–
Sage Kemmerlin	MSc, U. of Oregon	2017–
Andrew Harp*	PhD, U. at Buffalo	2014–2018
Radhika Sangani*	MSc, U. at Buffalo	2014–2017
Christian Venturino*	MSc, U. at Buffalo	2014–2016

## Undergraduate research advising

Chelbi Cook	U. of Oregon	2020
Sara Koff	U. of Oregon	2020
Ali Villanueva	U. of Oregon	2019–2020
Vincent Sassard	U. of Oregon	2019–2020

## PRESENTATIONS

### Invited talks

#### 2020

30. Chaussard, E., Havazli, E., Fattahi, H., Crabral-Cano, E. Over a Century of Sinking in Mexico City: No Hope for Elevation, Water Levels, and Water Quality Recovery, *ISTerre Grenoble, France* (Remote)
29. Hoyt, A.\*, Chaussard, E., Seppalainen, S. S., Harvey, C. Widespread Drainage, Subsidence and CO<sub>2</sub> Emissions in Tropical Peatlands. *AGU Fall meeting* (Remote)
28. Chaussard, E., Havazli, E., Fattahi, H., Crabral-Cano, E. Over a Century of Sinking in Mexico City: No Hope for Elevation, Water Levels, and Water Quality Recovery, *Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography, UC San Diego, San Diego, CA* (Remote)
27. Chaussard, E., For Peat's Sake! improving our understanding of tropical peatlands' dynamic through integration of remote sensing data, *San Jose State University, San Jose, CA* (Remote)

#### 2019

26. Chaussard, E., Widespread Subsidence and Carbon Emissions across Southeast Asian Peatlands, *Caltech, Pasadena, CA*.

25. Chaussard, E., InSAR: measuring ground deformation from space for hydrology, *National Academies of Sciences Workshop on Groundwater Recharge and Flow: Approaches and Challenges for Monitoring and Modeling using Remotely Sensed Data, Washington DC*.
24. Chaussard, E., From groundwater monitoring to characterization of aquifer system properties and evaluation of management practices, *Jet propulsion Laboratory, Pasadena, CA*.
23. Chaussard, E., Towards Global Assessment of Geohazards, *Jet propulsion Laboratory, Pasadena, CA*.
22. Chaussard, E., From Monitoring Land Subsidence to Managing Groundwater Resources from Space, *Oregon State University, Department of Geology, Corvallis, OR*.
21. Chaussard, E., From Monitoring Land Subsidence to Managing Groundwater Resources from Space, *Portland State University, Department of Geology, Portland, OR*.

## **2018**

20. Chaussard, E., Tiampo, K. Extracting signal from noise in Big Data. *Grand Challenges in Geodesy workshop, Michigan State University, East Lansing, MI*.
19. Chaussard, E., Bridging Earth Systems Sciences: from characterization of geohazards to estimation of CO<sub>2</sub> emissions across peatlands of Southeast Asia, *Buffalo Association of Professional Geologists, Buffalo, NY*.

## **2017**

18. Chaussard, E., Towards Global Assessment of Geohazards and Natural Resources, *Carnegie Institution for Science, Washington DC*.
17. Chaussard, E., Assessment of Geohazards and Natural Resources with remote sensing of ground deformation, *University at Buffalo, Buffalo NY*.
16. Chaussard, E., Bürgmann, R., Milillo, P., Baker, B., and Fielding, E. From surface and groundwater monitoring to characterization of aquifer systems properties with InSAR, *Earthscope synthesis workshop on hydrogeodesy, Scripps, U.C. San Diego, CA*.
15. Chaussard, E., Taking the pulse of volcanoes from space, *Cascade Volcano Observatory, Vancouver, WA*.

## **2016**

14. Chaussard, E., Milillo, P., Bürgmann, R., Perissin, D., Fielding, E., and Baker, B. From measuring land subsidence to characterizing aquifer properties with InSAR. *AGU Fall meeting, San Francisco, CA*.
13. Chaussard, E., Remote sensing of ground deformation for resources and hazards management. *University of Illinois at Urbana-Champaign, Champaign, IL*.
12. Chaussard, E., Exciting new applications of InSAR to characterize Geohazards. *2016 UNAVCO Science Workshop, Denver, CO*. [https://www.youtube.com/watch?v=4\\_pfx7X1ZPA](https://www.youtube.com/watch?v=4_pfx7X1ZPA)
11. Chaussard, E., From measuring land subsidence to characterizing aquifer properties with InSAR. *UNAVCO Science Workshop, Denver, CO*.
10. Chaussard, E., Remote sensing of ground deformation: an indispensable tool for resources and hazards management. *School of Arts and Sciences, University of Rochester, Rochester, NY*.
9. Chaussard, E., Bürgmann, R., Fattahi, H., Johnson, C.W., Nadeau, R., Taira, T. and Johanson, I. Interseismic deformation and potential for larger earthquakes on the Hayward-Calaveras Fault system. *UC Berkeley, CA*.

## **2015**

8. Chaussard, E., Bürgmann, R., Fattahi, H., Johnson, C.W., Nadeau, R., Taira, T. and Johanson, I. Interseismic deformation along the Calaveras fault and refining the geometry of the Hayward-Calaveras stepover. *Fringe Workshop, Frascati, Italy*.

7. Chaussard, E., Bürgmann, R., Fattahi, H., Johnson, C.W., Nadeau, R., Taira, T. and Johanson, I. Interseismic deformation and potential for larger earthquakes on the Hayward-Calaveras Fault system. *North. Cal. Earthquake Hazards Workshop, Menlo Park, CA.*

#### **2014**

6. Chaussard, E., Bürgmann, R., Fattahi, H., Johnson, C.W., Nadeau, R., and Johanson, I. Interseismic deformation along the Calaveras fault and refining the geometry of the Hayward-Calaveras stepover. *USGS Seminar Series, Menlo Park, CA.*

5. Chaussard, E., Bürgmann, R., Shirzaei, M., and Baker, B. Long-term and seasonal ground deformation in the Santa Clara Valley, California, revealed by multi decadal InSAR time series. *AGU Fall meeting, San Francisco, CA.*

4. Chaussard, E., and Kerosky, S. Remote sensing of illegal black sand mining in the Philippines. *UC Berkeley's Center for Effective Global Action annual seminar, Berkeley, CA.*

3. Chaussard, E., and Bürgmann, R. Remote sensing of ground deformation: an indispensable tool for groundwater resources and hazards management. *MIT's Earth, Atmospheric, and Planetary Sciences Department seminar series, Cambridge, MA.*

2. Chaussard, E., and Bürgmann, R. Aquifer and fault properties characterization using InSAR-derived ground deformation: Example of the Santa Clara Valley, CA. *International Workshop on Surface and Subsurface 4D-Monitoring, KAUST, Thuwal, Saudi Arabia.*

#### **2013**

1. Chaussard, E., Amelung, F., Wdowinski, S., Dixon, T.H., Aoki, Y., Cabral-Cano, E., Abidin, H., and Hong, S-H., Characterization of geohazards at regional scales using space geodesy: examples of land subsidence and volcanic eruptions. *UC Berkeley Seismological Lab, CA.*

### **Conference presentations**

(\*Presenter is/was my direct advisee or co-advisee)

#### **2020**

39. Chaussard, E., Havazli, E., Fattahi, H., Crabral-Cano, E. Over a Century of Sinking in Mexico City: No Hope for Elevation, Water Levels, and Water Quality Recovery *AGU Fall meeting, Online.*

38. Bussard, R.\*, Chaussard, E. Measuring Long-Term Subsidence of Mount St. Helens 1980 Deposits with Combined InSAR, GNSS. Poster at the *AGU Fall meeting, Online.*

37. Nassif, R.\*, Chaussard, E., Burbey, T. From Satellites to Storativity: Using Interferometric Synthetic Aperture Radar (InSAR) for Monitoring Groundwater in Central Valley California Poster at the *AGU Fall meeting, Online.*

#### **2019**

36. Chaussard, E., & Farr, T. G. A new method for isolating elastic from inelastic deformation in aquifer systems: Application to the San Joaquin Valley, CA. *AGU Fall meeting, San Francisco, CA.*

35. Chaussard, E., Widespread Subsidence and Carbon Emissions across Southeast Asian Peatlands, Poster at the *SAGE/GAGE, Portland, OR.*

#### **2018**

34. Chaussard, E., Hoyt, A., Harvey, C., Bridging Earth Systems Sciences with InSAR: from Quantifying Land Subsidence to Estimating the CO<sub>2</sub> Emissions Associated with Peatlands Oxidation Following Deforestation in Southeast Asia, *AGU Fall meeting, Washington D.C.*

33. Girven, E.\*, Chaussard E., Statistical and Geospatial Analysis of InSAR data for Characterization of Processes Controlling Motion of the Slow-moving Berkeley Landslides. NH21C-0833, Poster at the *AGU Fall meeting, Washington D.C.*



32. Longuevergne, L., Castellazzi, P., Martel, R., Rivera, A., Brouard, C., & Chaussard, E., Deciphering small-scale groundwater storage changes from combined interpretation of GRACE and InSAR. Poster at the *EGU meeting, Vienna, Austria*.

#### **2017**

31. Hoyt, A.\*, Harvey, C. F., Seppalainen, S. S., & Chaussard, E. Subsidence in tropical peatlands: Estimating CO<sub>2</sub> fluxes from peatlands in Southeast Asia. *AGU Fall meeting, San Francisco, CA*.

#### **2016**

30. Chaussard, E., Dynamics of open system volcanoes: constraints from 19 years of InSAR and GPS data at Mt. St. Helens. V53C-3108 Poster at the *AGU Fall meeting, San Francisco, CA*.

29. Xu, W., Burgmann, R., Johnson, C. W., Chaussard, E., Nadeau, R. M., Murray, J. R. & Materna, K. Interseismic coupling of major faults in the north San Francisco Bay from InSAR, GPS and seismic data. Poster at the *AGU Fall meeting, San Francisco, CA*.

28. Farge, G., Delbridge, B.G., Materna, K., Johnson, C. W., Chaussard, E., Jones, C. E., & Burgmann, R. Refining interseismic fault slip and shallow creep on the Hayward and Calaveras Faults, California, using UAVSAR, satellite InSAR and GPS data. *AGU Fall meeting, San Francisco, CA*.

#### **2015**

27. Chaussard, E., Bürgmann, R., Fattahi, H., Johnson, C.W., Nadeau, R., Taira, T. and Johanson, I. Interseismic coupling on the Hayward-Calaveras fault zone from InSAR. T43C-3016 Poster at the *AGU Fall meeting, San Francisco, CA*.

26. Castellazzi, P., Martel, R., Rivera, A., Huang, J., Calderhead, A., Chaussard, E., and Gárfias Soliz, J. Remote sensing and hydrogeology: GRACE and InSAR to assess groundwater sustainability in Central Mexico. *NGWA Groundwater summit, San Antonio, TX*.

25. Chaussard, E., Bürgmann, R., Fattahi, H., Johnson, C.W., Nadeau, R., Taira, T. and Johanson, I., Interseismic deformation along the Calaveras fault and refining the geometry of the Hayward-Calaveras stepover. *2015 Fringe Workshop, Frascati, Italy*.

#### **2014**

24. Chaussard, E., Bürgmann, R., Fattahi, H., Johnson, C.W., Nadeau, R., and Johanson, I. Interseismic deformation in the San Francisco Bay Area and slip estimates on the Calaveras-Hayward Faults from InSAR alone. Poster at the *AGU Fall meeting, San Francisco, CA*.

23. Fattahi, H., Amelung, F., Chaussard, E., Wdowinski, S., & Dixon, T. H. Characterizing seismic and aseismic deformation along the Chaman fault system with InSAR. Poster at the *AGU Fall meeting, San Francisco, CA*.

22. Castellazzi, P., Martel, R., Gárfias Soliz, J., Calderhead, A., Rivera, A., Chaussard, E., Groundwater Deficit and Land Subsidence in the Lerma-Santiago-Pacifico Watershed, Mexico. *NGWA Groundwater Summit, May 4-7, Denver, CO*.

#### **2013**

21. Chaussard, E., Bürgmann, R., Shirzaei, M., and Baker, B., Long-term and seasonal ground deformation in the Santa Clara Valley, California, revealed by multi decadal InSAR time series. Poster at the *AGU Fall meeting, San Francisco, CA*.

20. Chaussard, E., Amelung, F., and Aoki, Y., Detection of Cyclic Behaviors and Characterization of Magma Storage at Andesitic Volcanoes using Regional Time Series. *Living Planet Symposium, Edinburgh, UK*.

19. Chaussard, E., Wdowinski, S., Amelung, F., Cabral-Cano, E., Abidin, H., Hong, S-H., Land subsidence in central Mexico and Indonesia: Differences and Similitudes from Regional ALOS Time-series Surveys. 3-P-254 Poster at the *Living Planet, Edinburgh, UK*.

18. Chaussard, E., Wdowinski, S., Cabral E., and Amelung, F., Magnitude and extent of land subsidence in central Mexico revealed by regional InSAR ALOS time-series survey (1666469- H05). *AGU of the Americas, Cancun, Mexico*.

17. Chaussard, E., Amelung, F., Depth of magma storage in volcanic arcs: testing the influence of regional parameters using a global data compilation. 4859 -B432 Poster at the *EGU, Vienna, Austria*.

16. Chaussard, E., Wdowinski, S., Cabral E., Amelung, F., Magnitude and extent of land subsidence in central Mexico revealed by regional InSAR ALOS time-series. 4841 -B221 Poster at the *EGU, Vienna, Austria*.

15. Cabral-Cano, E., Arciniega-Ceballos, A., Vergara-Huerta, F., Chaussard, E., Wdowinski, S., DeMets, C., Salazar-Tlaczani, L., Shallow Faulting in Morelia, Mexico, Based on Seismic Tomography and Geodetically Detected Land Subsidence. *AGU Fall meeting, San Francisco, CA*.

## **2012**

14. Chaussard, E., Amelung, F., Aoki, Y., Precursory deformation and magma storage depths revealed by regional InSAR time series surveys: example of the Indonesian and Mexican volcanic arcs. G51B-1110 Poster at the *AGU Fall meeting, San Francisco, CA*.

13. Chaussard, E., Amelung, F., Abidin, H., & Hong, S.-H., Sinking cities in Indonesia: ALOS PALSAR detects rapid subsidence due to groundwater and gas extraction. G51B-1100 Poster at the *AGU Fall meeting, San Francisco, CA*.

12. Chaussard, E., Amelung, F., Aoki, Y., Taking the pulse of volcanoes using InSAR: Examples of arc-wide surveys in Indonesia and Mexico (3B1.3-10). *Cities on Volcanoes 7, November, Colima, Mexico*.

11. Morales Rivera, A. M., Chaussard, E., Amelung, F., InSAR observations of active volcanoes in Latin America (G51B-1108). Poster at the *AGU Fall meeting, San Francisco, CA*.

## **2011**

10. Chaussard, E., Amelung, F., Space-geodetic evidence of shallow magma reservoirs in the west-Sunda arc; Insights from global data compilation on what controls magma ascent in volcanic arcs (S34B-04). *AGU Fall meeting, San Francisco, CA*.

9. Chaussard, E., Amelung, F., Tectonic control of magma ascent in volcanic arcs: Space-geodetic evidence from the west-Sunda arc, Indonesia. *FRINGE, Frascati, Italy*.

8. Chaussard, E., Amelung, F., Abidin, H., & Hong, S.-H., Sinking cities in Indonesia: Space-geodetic evidence of the rates and spatial distribution of land subsidence. Poster at the *FRINGE workshop, Italy*.

7. Chaussard, E., and Amelung, F., The proposed Southeast Asia natural laboratory for Geohazards: InSAR detects precursory deformation at Indonesian volcanoes. Poster at the *Volcano Observatories Best Practices workshop, Erice, Italy*.

6. Amelung, F., Chaussard, E., Baker, S., Fattahi, H., Bagnardi, M. Stress control of the depth of magma reservoirs of arc volcanoes revealed by ALOS PALSAR. *AGU Fall meeting, San Francisco, CA*.

## **2010**

5. Chaussard, E., and Amelung, F., Monitoring the ups and down of Sumatra and Java with D-InSAR time series. Poster at the *AGU Fall meeting, San Francisco, CA, USA*.

4. Calais, E., Mattioli, G., Freed, A., Jansma, P., Macly, J., Stamps, S., Chaussard, E., Saint Preux, F., Mildor, S.-L., Preliminary results from GPS geodetic observations after the January 12, 2010, Mw 7.0 earthquake in Haiti. Poster at the *EGU, Vienna, Austria*

## **2009**

3. Chaussard, E., and Amelung, F., Monitoring the Sumatra volcanic arc with InSAR. Poster at the *AGU Fall meeting, San Francisco, CA, USA*.

## 2008

2. Chaussard, E., and Amelung, F., Coseismic deformation of the 2007 Sumatra earthquakes from InSAR. Poster at the *AGU Fall meeting, San Francisco, CA*.

1. Vernant, P., Chery, J., He, J., and Chaussard, E., Low rigidity of the Tibetan plateau and the geodetic slip rate of the Altyn-Tagh fault. *AGU Fall meeting, San Francisco, CA*.

## PROFESSIONAL SERVICE AND ACTIVITIES

### Departmental Service

- 2020– HPC committee, Dpt. of Earth Sciences, U. of Oregon
- 2019– Awards & admissions committee, Dpt. of Earth Sciences, U. of Oregon
- 2017–2018 Graduate Students Committee, Dpt. of Geology, U. at Buffalo
- 2017–2018 Web Committee, Dpt. of Geology, U. at Buffalo
- 2015–2017 Faculty Senate Representative, Dpt. of Geology representative, U. at Buffalo

### University Service

- 2020– Member of the SAGE/GAGE relocation RFI team
- 2019– Member of the hiring committee, Remote Sensing position, Dpt. of Geography, U. of Oregon

### Editorship

- 2021– Associate Editor for *Journal of Geophysical Research*
- 2019– Editor of a solicited *Springer* book
- 2019 Editor for *Journal of Geodesy*
- 2018– Editor for *Remote Sensing*, Special Issue "SAR for Natural Hazards"
- 2018– Associate editor for *Remote Sensing in Earth Systems Sciences*

### Committees and related activities

- 2021– *WInSAR Executive Committee – Re-elected*. The Western North America InSAR Consortium facilitates collaboration in, and advancement of, Earth science research using radar remote sensing. WInSAR has 313 institution members and 1866 registered users.
- 2021 *SAGE/GAGE* (Seismology Advancing Geosciences /Geodesy Advancing Geosciences) invited session chair (reported to 2021)
- 2019–2021 *Vice Chair of the WInSAR Executive Committee – Elected*.
- 2019 *National Academy of Sciences* panel member for the Board on Groundwater.
- 2018 – Mentor for the *AGU Geodesy, Seismology, and Tectonophysics* Networking group
- 2018 Panel member of the 2018 *Grand Challenges in Geodesy* workshop.
- 2016–2018 *Board of Directors of UNAVCO – Elected*. Non-profit university-governed consortium with 5-year NSF and NASA funding of \$92M.
- 2015 *National Academy of Sciences* panel member for the Board on Earth and Science Resources: Landslides and landslide risk.
- 2015 Member of the *NASA CORE* board on redefining the “Challenges and Opportunities for Research in Earth Surface and Interior”.
- 2015 Member of the *NSF SAGE/GAGE* (Seismology Advancing Geosciences EarthScope/Geodesy Advancing Geosciences and EarthScope) writing committee. Final re “Future Seismic & Geodetic Facility Needs in Geosciences”.

### Convener

- 2020 Convener, 2020 AGU Fall meeting, *Peatlands dynamics, disturbance and restoration*.
- 2020 Convener, 2020 AGU Fall meeting, *Recent Advances in SAR and InSAR Data Processing, Big Data Analysis and Earth Science Applications*.
- 2018 Co-convener, 2018 AGU Fall meeting session, *Multiscale Processes Influencing Tectonics and Earthquakes at Plate Boundary Fault Systems*.

**Reviewer** (15-20 review/year) for NSF & NASA, and the following journals: Nature; Nature Geoscience; Science; Science Advances; Scientific Reports; Earth and Planetary Science Letters; Geophysical Research Letters; J. Geophysical Research; Water Resources Research; Geochemistry, Geophysics, Geosystems; Natural Hazards; Remote Sensing of Environment; Remote Sensing; Environmental Research Communications; International J. of Applied Earth Observations and Geoinformation; J. of Geodesy; Journal of Geophysics; Journal of Environmental Management; Hydrogeology Journal.



### **Professional Society memberships**

American Geophysical Union (AGU)  
Seismological Society of America (SSA)  
Geological Society of America (GSA)  
International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

### **CONTRIBUTIONS TO DIVERSITY, EQUITY, AND INCLUSION**

- Woman in Geosciences, a field where 14% of Assistant Professors and 8% of Full professors are female
- Foreigner (English is my third language)
- Mentor of six female graduate students and two female undergraduate students
- Member of the National Association of Geoscience Teachers (NAGT) Early Career 2020 workshop focused on “Supporting Diversity and Inclusion in the Classroom and Beyond”
- Mentor for the AGU Geodesy, Seismology, and Tectonophysics Networking group since 2018
- 2014 UC Berkeley Center for Effective Global Action Award for our work on characterization of how mining activities disproportionately affect low income population and for developing a Citizen Science initiative aimed at reversing the societal impacts of illegal mining activities.
- Yearly visits and remote seminars in elementary, middle, and high-schools.
- Humanitarian worker following the 2010 Haiti earthquake (3 months in Haiti to help schools restart).
- Member of Indonesian community programs aimed towards Empowerment through Education: “Village Care for Peat” (*Desa Peduli Gambut*), “Teaching Indonesia” (*Indonesia Mengajar*), and “Educating Indonesia” (*Indonesia Mendidik*). These programs focus on distributing teaching skills and material to villages, with, to this day, ~400 villages in 7 provinces of South Sumatra reached.
- Created a course for incoming international students designed to improve communication skills.
- Supporter of the TIGERS initiative (The Inclusion Group for Equity in Research in STEMM)
- Member of the International Association for Geoscience Diversity (IAGD)
- In progress: engage students and enhance their scientific literacy by developing an undergrad Earth Sciences course focused on *Effective Communication through Data Visualization*, which will expose undergrads to hands-on research to help expand the representation of minorities in Earth Sciences.
- In progress: support teacher preparation and enhancement with the creation of two NAGT activities that will become part of the *Teach the Earth* collection on the Science Education Resource Center website (5 million visitors/year).

### **CODING/COMPUTING SKILLS**

**Languages:** Python; C/C++; MATLAB; Fortran; Perl; xml

**Modeling software:** MODFLOW; COMSOL; DisModel; Geodmod; ADELI; ABAQUS

**Processing software:** RoiPac; ISCE; GMTSAR; MintPy; GIPSY

**Mapping software:** QGIS; ArcGIS; GeoMapApp; GMT

### **LANGUAGES**

**French:** Native / **English:** Fluent / **Spanish:** Working Proficiency / **Italian:** Limited Working Proficiency

## **FIELD EXPERIENCES**

2019	Mapping fractures in Mexico City, Mexico
2015	Mapping deposits at Paricutin volcano, Mexico
2014	GPS campaign – San Francisco Bay area, following the Napa earthquake, CA
2012	Mapping and risk evaluation: Colima volcano, Mexico
2011	Campaign at sea, Coring and mapping in the Exumas, Bahamas
2010	Haiti earthquake NSF Rapid response, Haiti

## **ADVISORS**

Prof. Roland Bürgmann, Earth & Planetary Science, U.C. Berkeley. *Postdoc advisor.*  
Prof. Falk Amelung, Marine Geology and Geophysics, University of Miami. *PhD advisor.*  
Prof. Philippe Vernant, Dept. of Geosciences, Univ. of Montpellier II, France. *MS advisor.*