Curriculum Vitae

PAUL R. LUNDGREN
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Relevant Experience: Over 30 years of experience in earthquake and plate boundary deformation research. Led GPS study of interseismic coupling of the Middle America subduction zone in Costa Rica. Has over 20 years of experience applying SAR interferometry to earthquake and volcano source studies. Has extensive experience in integrating seismic waveforms and geophysical observations through inverse and forward numerical models to understand source processes of earthquakes, volcanoes, and crustal deformation. Current research focuses on combining numerical modeling of surface deformation of volcanoes, and fault systems on Earth. Current or former science investigator for ERS, ENVISAT, TerraSAR-X, TanDEM-X, COSMO-SkyMed, UAVSAR, and ALOS-2 SAR missions (ESA, DLR, ASI, NASA, JAXA respectively).

Education

Ph.D., Geophysics, Northwestern University, Evanston, IL, USA 1988
B.A., Physics, Gustavus Adolphus College, St. Peter, MN, USA 1983

Professional Experience

1989-present	Research Scientist, Jet Propulsion Laboratory
2020-present	NASA-JPL Deputy Program Manager Earth Surface and Interior
2018-present	CONVERSE (Comm. Network for Volcano Eruption Resp.) steering committee
2016-present	Supervisor Earth Surface and Interior Group, JPL
2020-2021	Solid Earth Lead, NASA STV Incubation Study Team
2018-2021	Advisor: JPL postdoctoral scholar M. G. Bato
2018-2021	Advisor: NASA NPP postdoctoral scholar A. Roman
2018-2019	Advisor: NASA NPP postdoctoral scholar M. Bagnardi
2009-2011	Advisor: Caltech Postdoctoral Research Scholars at JPL J. Pearse.
2008	NASA PGGURP mentor for summer intern S. Nag
2006-2008	Advisor: two Caltech Postdoctoral Research Scholars at JPL (R. Lohman, Z. Liu)
2001-2002	Deputy Project Scientist, Global Earthquake Satellite System (GESS)
2001-2002	NASA Solid Earth Science Working Group
1992-1996	NASA Dynamics of the Solid Earth (DOSE) Center Scientist, JPL
1988-1989	NATO Postdoctoral Research Fellow, Istituto Nazionale di Geofisica, Rome

Professional Activities

American Geophysical Union; Seismological Society of America, ESA FRINGE Sci. Prog. Com. 2003-2021

Other Publications

Lundgren, P. (2014), Fertile fields for seismicity, News & Views, *Nature, 509*, 436-437, doi:10.1038/nature13338.

Journal Publications

Lundgren, P., Liu, Z., & Ali, S. T. (2022). San Andreas fault stress change due to groundwater withdrawal in California's Central Valley, 1860-2010. *Geophysical Research Letters*, 48, e2021GL095975. https://doi.org/10.1029/2021GL095975

Davis, T., Bagnardi, M., Lundgren, P., & Rivalta, E. (2021). Extreme curvature of shallow magma pathways controlled by competing stresses: Insights from the 2018 Sierra Negra eruption. *Geophysical Research Letters, 48*, e2021GL093038. https://doi.org/10.1029/2021GL093038

Roman, A., and P. Lundgren (2021), Dynamics of large effusive eruptions driven by caldera collapse, *Nature*, *592*, 392-396. https://doi.org/10.1038/s41586-021-03414-5.

Bato, M. G., Lundgren, P., Pinel, V., Solidum, R., Daag, A., & Cahulogan, M. (2021). The 2020 eruption and large lateral dike emplacement at Taal volcano, Philippines: Insights from satellite radar data. *Geophysical Research Letters, 48*, e2021GL092803. https://doi.org/10.1029/2021GL092803.

Dietterich, H. R., A. K. Diefenbach, S. A. Soule, M. H. Zoeller, M. R. Patrick, J. J. Major, and P. R. Lundgren (2021), Lava effusion rate evolution and erupted volume during the 2018 Kīlauea lower East Rift Zone eruption, *Bulletin of Volcanology*, https://doi.org/10.1007/s00445-021-01443-6.

Girona, T., V. Realmuto, and P. Lundgren (2021), Large-scale thermal unrest of volcanoes for years prior to eruption, *Nature Geosci*ence, https://doi.org/10.1038/s41561-021-00705-4.

Bell, A., P. C. La Femina, M. Ruiz, et al. (2021), Caldera resurgence during the 2018 eruption of Sierra Negra volcano, Galápagos Islands, *Nature Communications, 12,* 1397. https://doi.org/10.1038/s41467-021-21596-4.

Pulvirenti, F., Liu, Z., Lundgren, P., Gonzalez-Ortega, A., & Aloisi, M. (2021). New fault slip distribution for the 2010 Mw 7.2 El Mayor Cucapah earthquake based on realistic 3D finite element inversions of coseismic displacements using space geodetic data. *Journal of Geophysical Research: Solid Earth, 126*, e2020JB020016. https://doi.org/10.1029/2020JB020016

Lundgren, P., T. Girona, M. G. Bato, V. Realmuto, S. Samsonov, C. Cardona, L. Franco, E. Gurrola, and M. Aivazis (2020), The dynamics of large silicic systems from satellite remote sensing observations: the intriguing case of Domuyo volcano, Argentina, *Scientific Reports*, *10*, 11642. https://doi.org/10.1038/s41598-020-67982-8.

Lundgren, P. R., Bagnardi, M., & Dietterich, H. (2019). Topographic changes during the 2018 Kīlauea eruption from single-pass airborne InSAR. *Geophysical Research Letters, 46*. https://doi.org/10.1029/2019GL083501

Stampoulis, D., J. T. Reager, C. H. David, K. M. Andreadis, J. S. Famiglietti, T. G. Farr, A. R. Trangsrud, R. R. Basilio, J. L. Sabo, G. B. Osterman, P. R. Lundgren, and Z. Liu (2019), Model-data fusion of hydrologic simulations and GRACE terrestrial water storage observations to estimate changes in water table depth, *Adv. Water Resources*, *128*, 13-27, https://doi.org/10.1016/j.advwatres.2019.04.004.

Neal, C. A., S. R., Brantley, L. Antolik, et al. (2019), The 2018 rift eruption and summit collapse of Kīlauea Volcano, *Science, 363*, 367-374, DOI: 10.1126/science.aav7046.

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