

Publications

Constanza Rodriguez Picada

1 Monographs

- [1] **Rodriguez Picada, C.** “Thermomechanical state of the southern Central Andes : implications for active deformation patterns in the transition from flat to steep subduction”. eng. PhD thesis. Universität Potsdam, 2022. doi: [10.25932/publishup-54927](https://doi.org/10.25932/publishup-54927).
- [2] **Rodriguez Picada, C.** “Geología y paleomagnetismo del Grupo Santa Victoria en la Sierra de Mojotoro, provincia de Salta [Geology and Paleomagnetism of the Santa Victoria Group in the Mojotoro Range, Salta Province]”. Español. Tesis de Grado. Universidad de Buenos Aires. Facultad de Ciencias Exactas y Naturales, 2017.

2 Further publications

a. Peer-reviewed Publications

- [1] Pons*, M., **Rodriguez Picada, C.**, Sobolev, S. V., Scheck-Wenderoth, M., and Strecker, M. R. “Localization of Deformation in a Non-Collisional Subduction Orogen: The Roles of Dip Geometry and Plate Strength on the Evolution of the Broken Andean Foreland, Sierras Pampeanas, Argentina”. en. In: *Tectonics* 42.8 (2023), e2023TC007765. ISSN: 1944-9194. doi: [10.1029/2023TC007765](https://doi.org/10.1029/2023TC007765).
- [2] **Rodriguez Picada*, C.**, Gao, Y.-J., Cacace, M., Scheck-Wenderoth, M., Bott, J., Strecker, M., and Tilmann, F. “The influence of mantle hydration and flexure on slab seismicity in the southern Central Andes”. en. In: *Communications Earth & Environment* 4.1 (2023). Number: 1 Publisher: Nature Publishing Group, pp. 1–10. ISSN: 2662-4435. doi: [10.1038/s43247-023-00729-1](https://doi.org/10.1038/s43247-023-00729-1).
- [3] **Rodriguez Picada*, C.**, Scheck-Wenderoth, M., Bott, J., Gomez Dacal, M. L., Cacace, M., Pons, M., Prezzi, C. B., and Strecker, M. R. “Controls of the Lithospheric Thermal Field of an Ocean-Continent Subduction Zone: The Southern Central Andes”. In: *Lithosphere* 2022.1 (2022), p. 2237272. ISSN: 1941-8264. doi: [10.2113/2022/2237272](https://doi.org/10.2113/2022/2237272).
- [4] **Rodriguez Picada*, C.**, Scheck-Wenderoth, M., Cacace, M., Bott, J., and Strecker, M. R. “Long-Term Lithospheric Strength and Upper-Plate Seismicity in the Southern Central Andes, 29°–39°S”. en. In: *Geochemistry, Geophysics, Geosystems* 23.3 (2022), p. 22. ISSN: 1525-2027. doi: [10.1029/2021GC010171](https://doi.org/10.1029/2021GC010171).
- [5] Barrionuevo*, M., Liu, S., Mescua, J., Yagupsky, D., Quinteros, J., Giambiagi, L., Sobolev, S., Strecker, M., and **Rodriguez Picada, C.** “The influence of variations in crustal composition and lithospheric strength on the evolution of deformation processes in the southern Central Andes: Insights from geodynamic models”. In: *International Journal of Earth Sciences* (2021). doi: <https://doi.org/10.1007/s00531-021-01982-5>.
- [6] Franceschinis*, P. R., Fazzito, S. Y., Rapalini, A. E., Escayola, M. P., Geuna, S. E., and **Rodríguez Picada, C.** “Permian remagnetization of the Early Cambrian Guachos Formation, Eastern Cordillera, Argentina”. In: *Journal of South American Earth Sciences* 106 (2021), p. 102887. ISSN: 0895-9811. doi: [10.1016/j.jsames.2020.102887](https://doi.org/10.1016/j.jsames.2020.102887).
- [7] **Rodriguez Picada*, C.**, Scheck-Wenderoth, M., Gomez Dacal, M. L., Bott, J., Prezzi, C. B., and Strecker, M. R. “Lithospheric density structure of the southern Central Andes constrained by 3D data-integrative gravity modelling”. en. In: *International Journal of Earth Sciences* (2021). ISSN: 1437-3254, 1437-3262. doi: [10.1007/s00531-020-01962-1](https://doi.org/10.1007/s00531-020-01962-1).
- [8] Franceschinis*, P. R., Escayola, M. P., Rapalini, A. E., and **Rodríguez Picada, C.** “Age constraints on the Cambrian Mesón Group (NW Argentina) based on detrital zircons U–Pb geochronology and magnetic polarity bias”. In: *Journal of South American Earth Sciences* 104 (2020), p. 102835. ISSN: 0895-9811. doi: [10.1016/j.jsames.2020.102835](https://doi.org/10.1016/j.jsames.2020.102835).

-
- [9] Franceschinis*, P. R., Rapalini, A. E., Escayola, M. P., and **Rodríguez Piceda, C.** “Paleogeographic and tectonic evolution of the Pampia Terrane in the Cambrian: New paleomagnetic constraints”. In: *Tectonophysics* 779 (2020), p. 228386. ISSN: 0040-1951. doi: [10.1016/j.tecto.2020.228386](https://doi.org/10.1016/j.tecto.2020.228386).
- [10] **Rodríguez Piceda*, C.**, Franceschinis, P. R., Escayola, M. P., and Rapalini, A. E. “Paleomagnetismo del Grupo Santa Victoria en la sierra de Mojotoro, Salta: aportes a la reconstrucción paleogeográfica de Pampia en el Paleozoico temprano [Paleomagnetism of the Santa Victoria Group in the Mojotoro Range (Salta): insights on the paleoreconstruction of Pampia in the early Paleozoic]”. In: *Revista de la Asociación Geológica Argentina* 75.4 (2018), pp. 518–532.

b. Submitted peer-reviewed manuscripts

- [1] **Rodríguez Piceda, C.**, Mildon, Z. K., Andrews, B. J., Ampuero, J. P., Visini, F., and Ende, M. van den. “Spatially heterogenous Holocene slip rates drive seismic sequence variability on normal faults”. en. In: *submitted to Seismica* (2025).
- [2] **Rodríguez Piceda, C.**, Mildon, Z. K., Ende, M. van den, Ampuero, J. P., and Andrews, B. J. “Normal fault interactions in seismic cycles and the impact of fault network geometry”. en. In: *submitted to Journal of Geophysical Research: Solid Earth* (2024).

c. Publications without peer-review

- [1] **Rodríguez Piceda, C.** *3D seismic cycle model with variable slip-rate and hazard calculations*. Zenodo [dataset]. Mar. 2025. URL: <https://zenodo.org/records/15101946> (visited on 04/04/2025).
- [2] **Rodríguez Piceda, C.**, Mildon, Z., Andrews, B., Yin, Y., Ampuero, J.-P., Ende, M. v. d., and Sgambato, C. *Seismic sequences in the Italian Apennines influenced by fault network geometry*. en. Tech. rep. EGU25-876. EGU25 General Assembly, Vienna (Austria) [conference abstract]. Copernicus Meetings, 2025. doi: [10.5194/egusphere-egu25-876](https://doi.org/10.5194/egusphere-egu25-876). (Visited on 04/04/2025).
- [3] **Rodríguez Piceda, C.**, Mildon, Z., Ende, M. van den, Ampuero, J. P., and Andrews, B. *3D seismic cycle models of two normal faults*. Zenodo [dataset]. 2025. doi: [10.5281/zenodo.14724747](https://doi.org/10.5281/zenodo.14724747).
- [4] **Rodríguez Piceda, C.**, Pons, M., Scheck-Wenderoth, M., Cacace, M., Bott, J., and Strecker, M. *Contributions of plate strength and dip geometry on the localization of deformation in Central Andes: a data-driven modelling approach*. en. Tech. rep. EGU25-5759. EGU25 General Assembly, Vienna (Austria) [conference abstract]. Copernicus Meetings, 2025. doi: [10.5194/egusphere-egu25-5759](https://doi.org/10.5194/egusphere-egu25-5759). (Visited on 04/04/2025).
- [5] Andrews, B., Mildon, Z., Lukas Diercks, M., Mitchell, S., Roberts, G., **Rodríguez Piceda, C.**, and Robertson, J. “Using fracture-scarp lineations as kinematic indicators on active normal fault scarps”. In: EGU General Assembly, Vienna, Austria [conference abstract]. 2024. doi: [10.5194/egusphere-egu24-10122](https://doi.org/10.5194/egusphere-egu24-10122).
- [6] Mildon, Z., Andrews, B., **Rodríguez Piceda, C.**, and Diercks, M. “Insights into fault behaviour and seismic hazard from studying active and inactive faults over a range of timescales”. In: EGU General Assembly, Vienna (Austria) [conference abstract]. 2024. doi: [10.5194/egusphere-egu24-17839](https://doi.org/10.5194/egusphere-egu24-17839).
- [7] **Rodríguez Piceda, C.** “The signature of lithospheric strength on seismicity in the southern Central Andes”. en. In: IRN - Andes Frensz online seminar series [i]. 2024.
- [8] **Rodríguez Piceda, C.**, Mildon, Z. K., Yin, Y., Andrews, B. J., Sgambato, C., Ende, M. van den, and Ampuero, J. P. “How normal fault interactions impact the generation of complex seismic sequences in the southern Apennines”. en. In: Cargèse international workshop on earthquakes, Cargèse (France) [conference abstract]. 2024.
- [9] **Rodríguez Piceda, C.**, Mildon, Z. K., Yin, Y., Andrews, B. J., Sgambato, C., Ende, M. van den, and Ampuero, J. P. “Simulating normal fault interactions during complex seismic sequences in the southern Apennines”. en. In: EGU General Assembly, Vienna, Austria [conference abstract]. 2024. doi: [10.5194/egusphere-egu24-11002](https://doi.org/10.5194/egusphere-egu24-11002).

-
- [10] **Rodríguez Picada, C.**, Scheck-Wenderoth, M., Cacace, M., Bott, J., Gao, Y.-J., Tilmann, F., and Strecker, M. “Contributions of lithospheric strength, mantle hydration and slab flexure to seismic localization in the southern Central Andes”. en. In: IPOC workshop [conference abstract]. Potsdam (Germany), 2024.
- [11] **Rodríguez Picada, C.**, Scheck-Wenderoth, M., Cacace, M., Bott, J., Gao, Y.-J., Tilmann, F., and Strecker, M. “The fingerprints of lithospheric strength in the seismicity patterns of the southern Central Andes”. en. In: VI Coloquio sobre Señales Geofísicas de Terremotos y Volcanes [conference abstract, keynote speaker]. Concepcion (Chile), 2024.
- [12] Pons, M., **Rodríguez Picada, C.**, Sobolev, S. V., Scheck-Wenderoth, M., and Strecker, M. R. “Understanding the role of structural inheritance and flat slab geometry in Central Andes”. In: EGU General Assembly, Vienna, Austria [conference abstract]. 2023, EGU-8492. doi: [10.5194/egusphere-egu23-8492](https://doi.org/10.5194/egusphere-egu23-8492).
- [13] Pons, M., **Rodríguez Picada, C.**, Sobolev, S., Scheck-Wenderoth, M., and Strecker, M. *Flat-slab conveyor effect induces precursory crustal contraction in the Central Andes*. en. [preprint]. 2023. doi: [10.21203/rs.3.rs-2488794/v1](https://doi.org/10.21203/rs.3.rs-2488794/v1).
- [14] Pons, M., **Rodríguez Picada, C.**, Sobolev, S., Scheck-Wenderoth, M., and Strecker, M. R. *3D geodynamic data-driven model of the Southern Central Andes*. GFZ data services [dataset]. 2023. doi: [10.5880/GFZ.2.5.2023.001](https://doi.org/10.5880/GFZ.2.5.2023.001).
- [15] **Rodríguez Picada, C.** “From lithospheric- to crustal scale: the effect of geological variability on seismicity”. en. In: CRES Seminar Series, Plymouth (UK) [conference abstract]. 2023.
- [16] **Rodríguez Picada, C.**, Mildon, Z., Ende, M. van den, and Ampuero, J. P. “Fault network geometry induces complex seismic sequences in normal faults”. en. In: ICTP Workshop on Mechanics of the Earthquake Cycle, Trieste, Italy [conference abstract]. 2023.
- [17] **Rodríguez Picada, C.**, Mildon, Z., Ende, M. van den, and Ampuero, J. P. “The effects of 3D normal fault interactions in seismic cycles”. en. In: CRES Conference, Plymouth (UK) [conference abstract]. 2023.
- [18] **Rodríguez Picada, C.**, Scheck-Wenderoth, M., Cacace, M., Bott, J., Gao, Y.-J., Tilmann, F., and Strecker, M. “Contributions of lithospheric structure, mantle hydration and slab flexure in seismic localization in the southern Central Andes”. en. In: PATADays 2022, Aix-en-Provence, France [conference abstract]. 2022.
- [19] **Rodríguez Picada, C.**, Scheck-Wenderoth, M., Cacace, M., Bott, J., Gao, Y.-J., Tilmann, F., and Strecker, M. “How does lithospheric strength, mantle hydration and slab flexure relate to seismicity in the southern Central Andes?” en. In: EGU General Assembly, Vienna, Austria [conference abstract]. 2022. doi: [10.5194/egusphere-egu22-1613](https://doi.org/10.5194/egusphere-egu22-1613).
- [20] Anikiev, D., Götze, H.-J., Bott, J., Gómez-García, A. M., Dacal, M. L. G., Meeßen, C., Spooner, C., **Rodríguez Picada, C.**, Plonka, C., Schmidt, S., and Scheck-Wenderoth, M. “Interdisciplinary data-constrained 3-D potential field modelling with IGMAS+”. en. In: EGU General Assembly, Vienna, Austria [conference abstract]. 2021. doi: [10.5194/egusphere-egu21-2964](https://doi.org/10.5194/egusphere-egu21-2964).
- [21] Götze, H.-J., Anikiev, D., Bott, J., Gómez-García, A. M., Dacal, M. L. G., Meeßen, C., Spooner, C., **Rodríguez Picada, C.**, Plonka, C., Schmidt, S., and Scheck-Wenderoth, M. “Interdisciplinary data-constrained 3-D potential field modelling with IGMAS+”. en. In: DGG, Germany [conference abstract]. 2021.
- [22] **Rodríguez Picada, C.**, Scheck Wenderoth, M., Cacace, M., Bott, J., and Strecker, M. *3D rheological model of the Southern Central Andes*. GFZ data services [dataset]. 2021. doi: <https://doi.org/10.5880/GFZ.4.5.2021.002>.
- [23] **Rodríguez Picada, C.**, Scheck Wenderoth, M., Judith, B., Gomez Dacal, M. L. G., Cacace, M., Pons, M., Prezzi, C., and Strecker, M. “Controls of the lithospheric thermal field of an ocean-continent subduction zone: the southern Central Andes”. en. In: *EarthArXiv* (2021). [preprint]. doi: <https://doi.org/10.31223/X5B05D>.

-
- [24] **Rodriguez Picada, C.**, Scheck-Wenderoth, M., Bott, J., Dacal, M. L. G., Pons, M., Prezzi, C., and Strecker, M. “Unravelling the thermal state of the southern Central Andes and its controlling factors”. en. In: EGU General Assembly, Vienna, Austria [conference abstract]. 2021. doi: [10.5194/egusphere-egu21-5214](https://doi.org/10.5194/egusphere-egu21-5214).
- [25] **Rodriguez Picada, C.**, Scheck-Wenderoth, M., Bott, J., Gomez Dacal, M. L., Pons, M., Prezzi, C., and Strecker, M. *3D thermal model of the southern Central Andes*. GFZ data services [dataset]. GFZ Data Services, 2021. doi: <https://doi.org/10.5880/GFZ.4.5.2021.001>.
- [26] **Rodriguez Picada, C.**, Scheck-Wenderoth, M., Gomez Dacal, M. L., Bott, J., Prezzi, C., and Strecker, M. *Lithospheric-scale 3D model of the Southern Central Andes*. dataset. GFZ data services [dataset]. 2020. doi: [10.5880/GFZ.4.5.2020.001](https://doi.org/10.5880/GFZ.4.5.2020.001).
- [27] **Rodriguez Picada, C.**, Scheck-Wenderoth, M., Gomez Dacal, M. L., Bott, J., Prezzi, C., and Strecker, M. “Insights on the lithospheric density structure of the Southern Central Andes and their foreland”. In: Latin-American Colloquium, Hamburg Germany [conference abstract]. 2019.
- [28] **Rodriguez Picada, C.**, Scheck-Wenderoth, M., Gomez Dacal, M. L., Bott, J., Prezzi, C., and Strecker, M. “Lithospheric-scale 3D configuration of the Southern Central Andes”. In: 5th International Young Earth Scientists (YES) Congress, Berlin, Germany, [conference abstract]. 2019.

Peer-reviewed publications [1]-[4] and [7] are derived from the PhD dissertation.