Cédric Legendre MOST Research Scholar

〔**Mailing address**〕**:**

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〔**Research Interests**〕

- Waveform inversion,
- Source inversion,
- Wave propagation,
- Surface wave,
- Noise tomography,
- Structure and evolution of the lithosphere,
- Phase velocity,
- Shear velocity,
- Anisotropy,
- Continental collision,
- Subduction,
- Mantle dynamic.

〔**Education**〕

- 2005/12 : Ph.D. Institute of Geology, Mineralogy and Geophysics, Ruhr University Bochum, Germany
- 2002/04 : M.S. Institute of Geosciences, Université Montpellier 2, France
- 1998/01 : B.S. Institute of Geosciences, Université Montpellier 2, France

〔**Experience**〕

- 2012 - 2015: Postdoctoral fellow - IES, Institute of Earth Sciences, Academia Sinica, Taiwan
- 2015 - 2016: Postdoctoral fellow - MOST, Department of Geosciences, National Taiwan University, Taiwan
- 2016 - 2018: Postdoctoral fellow - AS, Institute of Earth Sciences, Academia Sinica, Taiwan
- 2018 - 2020: Postdoctoral fellow - MOST, Institute of Earth Sciences, Academia Sinica, Taiwan
- 2020 - now: MOST Research Scholar - MOST, Institute of Earth Sciences, Academia Sinica, Taiwan

〔 **Publications** 〕

- **C. P. Legendre***, T. Meier, S. Lebedev, W. Friederich & L. Viereck-Götte, 2012: “A shear-wave velocity model of the European upper mantle from automated inversion of seismic shear and surface waveforms.”, Geophysical Journal International (Volume 191, Issue 1, pages 282--304, October 2012). *pdf*DOI: 10.1111/j.1365-246X.2012.05613.x
- B. Knapmeyer-Endrun*, F. Krüger, **C. P. Legendre**, W.H. Geissler & PASSEQ Working Group, 2013: “Tracing the influence of the Trans-European Suture Zone into the mantle transition zone.”, Earth and Planetary Science Letters (Volume 363, Pages 73--87, 1 February 2013). *pdf*DOI: 10.1016/j.epsl.2012.12.028
- **C. P. Legendre***, F. Deschamps, L. Zhao, S. Lebedev & Q.-F. Chen, 2014: “Anisotropic Rayleigh wave phase velocity maps of eastern China.”, Journal of Geophysical Research: Solid Earth (Volume 119, Issue 6, pages 4802--4820, June 2014). *pdf*DOI: 10.1002/2013JB010781
- **C. P. Legendre***, Q.-F. Chen & L. Zhao, 2014: “Lithospheric Structure beneath the East China Sea Revealed by Rayleigh-wave Phase Velocities.”, Journal of Asian Earth Sciences (Volume 96, Pages 213–225, December 2014). *pdf*DOI: 10.1016/j.jseaes.2014.08.037
- **C. P. Legendre***, L. Zhao, W.G. Huang & B.S. Huang, 2015: “Anisotropic Rayleigh-wave phase velocities beneath northern Vietnam.”, Earth, Planets and Space (Volume 67, 16pp, February 2015). *pdf*DOI: 10.1186/s40623-015-0193-3
- **C. P. Legendre***, L Zhao & QF Chen, 2015: “Upper-mantle shear-wave structure under East and Southeast Asia from Automated Multimode Inversion of waveforms.”, Geophysical Journal International (Volume 203 (1), 707-719, July 2015). *pdf*DOI: 10.1093/gji/ggv322
- **C. P. Legendre***, F. Deschamps, L. Zhao & Q.-F. Chen, 2015: “Rayleigh-wave dispersion reveals crust-mantle decoupling beneath eastern Tibet.”, Scientific reports (Volume 5, 7pp, November 2015). *pdf*DOI: 10.1038/srep16644
- **C. P. Legendre***, L. Zhao, F. Deschamps & Q.-F. Chen, 2015: “Layered anisotropy within the crust and lithospheric mantle beneath the Sea of Japan.”, Journal of Asian Earth Sciences (Volume 128, pages 181-195, July 2016). *link*DOI: 10.1016/j.jseaes.2016.07.010
- **C. P. Legendre***, TL. Tseng, H. Mittal, CH. Hsu, A. Karakhanyan & BS. Huang, 2017: “Complex Wave Propagation Revealed by Peak Ground Velocity Maps in the Caucasus Area.”, Seismological Research Letters (Volume 88 (3), 812-821, May/June 2017). *link*DOI: 10.1016/j.tecto.2017.05.024
- **C. P. Legendre***, TL. Tseng, YN. Chen, TY. Huang, YC. Gung, A. Karakhanyan & BS. Huang, 2017: “Complex deformation in the Caucasus region revealed by ambient noise seismic tomography.”, Tectonophysics (Volume 712-713, pages 208-220, August 2017). *link*DOI: 10.1016/j.tecto.2017.05.024
- T. Yuan, **C. P. Legendre**, Z. Tong, J. G. Han, M. Y. Wu, L. Zhao & J. Y. Ning*, 2017: “High resolution anisotropic phase velocity tomography of Northeast China and its implication.”, Chinese Journal of Geophysics (Volume 60 (5), 1659-1675, June 2017). *link*DOI: 10.6038/cjg20170505
- Mittal, H, Wu, Y.M., Chen, Y.N., **Legendre, C. P.**, Gupta, S. & Yang, B.M., 2019: “Time-dependent shake map for Uttarakhand Himalayas, India, using recorded earthquakes.”, Acta Geophysica (Volume 67, Issue 3, 753—763, 2019). *link*DOI: 10.1016/j.tecto.2017.05.024

- **Legendre, C. P**, Tseng, T.L., Deffontaines, B., Huang, B.S., Lee, H.Y. & Chang E.T.Y, 2020: "Anisotropic Rayleigh-wave phase velocity maps of the Sunda Plate", Journal of Asian Earth Sciences, (Volume 187, Issue 3, 104094, 2020). *link*DOI: 10.1016/j.jseaes.2019.104094
- Fan, X. L.; Chen, Q. F.; **Legendre, C. P**, & Guo, Z., 2020: "Intraplate volcanism and regional geodynamics in NE Asia revealed by anisotropic Rayleigh-wave tomography", Geophysical Research Letters (Volume 47, Issue 1). *link*DOI: 10.1029/2019GL085623
- **Legendre, C. P**, Tseng, T.L. & Zhao, L., 2020: "Surface-wave phase-velocity maps of the Anatolia region (Turkey) from ambient noise tomography", Journal of Asian Earth Sciences (Volume 193,104322, 2020). *link*DOI: 10.1016/j.jseaes.2020.104322

〔**Awards**〕

- Best "young scientist" paper award (MOST) – 2015
- Prof. Tsanyao Frank Yang young scientists award (IGRS 2016)
- Academia Sinica Postdoctoral Research Fellowship (Academia Sinica) - 2016-2018