Dr. Leonardo Uieda

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Professional Appointments

2019 – on **Lecturer**, Department of Earth, Ocean and Ecological Sciences, University of Liverpool, UK

2018 – on **Affiliate Researcher**, Department of Earth Sciences, University of Hawai'i at Mānoa, USA

2014 – 2018 **Assistant Professor**, Departamento de Geologia Aplicada, UERJ, Brazil

Education

2011 – 2016 **PhD in Geophysics**, Observatório Nacional, Brazil

2010 – 2011 **MSc in Geophysics**, Observatório Nacional, Brazil

2004 – 2009 **BSc in Geophysics**, Universidade de São Paulo, Brazil

Grants & Fellowships

2020 – 2023 NSF-EAR: "A Sustainable Plan for the Future of the Generic Mapping Tools". PI: Wessel, P, **co-PI**: **Uieda, L**. *University of Hawai'i at Mānoa.* Award ID: 1948602.

2020 Software Sustainability Institute Fellowship. *University of Liverpool.* More information: software.ac.uk/about/fellows/leonardo-uieda

2018 – 2020 NSF-EAR: "The EarthScope/GMT Analysis and Visualization Toolbox". PI: Wessel, P, **co-PI**: **Uieda, L**, co-PI: Smith-Konter, B. *University of Hawai'i at Mānoa.* Award ID: 1829371.

Open Science

2010 – on **Fatiando a Terra** | www.fatiando.org
Python tools for geophysical data processing, forward modeling, and inversion

2017 – on **PyGMT** | www.pygmt.org
A Python interface for the Generic Mapping Tools

2017 – on **The Generic Mapping Tools (GMT)** | www.generic-mapping-tools.org
A data processing and mapping toolbox for the Earth, Ocean, and Planetary Science

2009 – 2016 **Tesseroids** | tesseroids.leouieda.com
Forward modeling of gravitational fields in spherical coordinates

Academic Service

2019 – on Topic editor, *Journal of Open Source Software*

2021 – on Code of Conduct Working Group, *Software Underground*

2019 – on Advisory Council, *EarthArXiv*

Current Teaching

2020 – on ENVS398: Global Geophysics and Geodynamics, *University of Liverpool*

2020 – on ENVS258: Environmental Geophysics, *University of Liverpool*

2020 – on ENVS386: Geophysical Data Modelling, *University of Liverpool*

2020 – on ENVS101/106: Study Skills and GIS (tutorial), *University of Liverpool*

2019 – on ENVS363: Geophysical Exploration Techniques (field), *University of Liverpool*

Student Supervision

2021 – on India Uppal, **PhD**, University of Liverpool, UK

2017 – 2022 Santiago R. Soler, **PhD**, Universidad Nacional de San Juan, Argentina

Recent Invited Talks

2021 **Uieda, L**, Li, L, Soler, SR, Pesce, A. Design useful tools that do one thing well and work together: rediscovering the UNIX philosophy while building the Fatiando a Terra project, *AGU 2021*, Online.

Uieda, L, Soler, SR. Python-based workflows for small-to-medium sized data: what works, what doesn't, and what can be improved, *AGU 2021*, Online.

Uieda, L, Soler, SR, Pesce, A. Open-science for gravimetry: tools, challenges, and opportunities, *GFZ Helmholtz Centre Potsdam*, Germany.

Uieda, L, Soler, SR, Pesce, A. Fatiando a Terra: Open-source tools for geophysics, *Geophysical Society of Houston*, Houston, USA.

2020 **Uieda, L**. Geophysical research powered by open-source, *various locations* (Christian Albrechts Universität zu Kiel / Departamento de Geofísica, Universidade de São Paulo / Technische Universität Bergakademie Freiberg / Geographic Data Science Lab, University of Liverpool).

Publication Highlights

2021 Soler, SR, **Uieda, L**. Gradient-boosted equivalent sources. *Geophysical Journal International*. doi:10.1093/gji/ggab297. github.com/compgeolab/eql-gradient-boosted

2020 **Uieda, L**, Soler, SR, Rampin, R, van Kemenade, H, Turk, M, Shapero, D, Banihirwe, A, Leeman, J. Pooch: A friend to fetch your data files. *Journal of Open Source Software*. doi:10.21105/joss.01943. github.com/fatiando/pooch

2019 Wessel, P, Luis, J, **Uieda, L**, Scharroo, R, Wobbe, F, Smith, WHF, Tian, D. The Generic Mapping Tools, Version 6. *Geochemistry, Geophysics, Geosystems*. doi:10.1029/2019GC008515.

2018 **Uieda, L**. Verde: Processing and gridding spatial data using Green's functions. *Journal of Open Source Software*. doi:10.21105/joss.00957. github.com/fatiando/verde

2017 **Uieda, L**, Barbosa, VCF. Fast non-linear gravity inversion in spherical coordinates with application to the South American Moho, *Geophysical Journal International*, doi:10.1093/gji/ggw390. github.com/pinga-lab/paper-moho-inversion-tesseroids

2016 **Uieda, L**, Barbosa, VCF, Braitenberg, C. Tesseroids: forward modeling gravitational fields in spherical coordinates, *Geophysics*, doi:10.1190/geo2015-0204.1. github.com/pinga-lab/paper-tesseroids

2015 Oliveira Jr, VC, Sales, DP, Barbosa, VCF, **Uieda, L**. Estimation of the total magnetization direction of approximately spherical bodies, *Nonlinear Processes in Geophysics*, doi:10.5194/npg-22-215-2015. github.com/pinga-lab/Total-magnetization-of-spherical-bodies

2013 Melo, FF, Barbosa, VCF, **Uieda, L**, Oliveira Jr, VC, Silva, JBC. Estimating the nature and the horizontal and vertical positions of 3D magnetic sources using Euler deconvolution, *Geophysics*, doi:10.1190/geo2012-0515.1.