

PERSONAL INFORMATION:

Pedro Henrique Muniz Lima, Dr, MSc, BSc

Nationality: Brazilian

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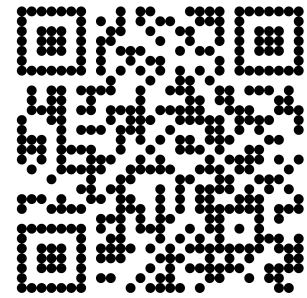
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Education

- 2015 – 2022  **PhD in Natural Sciences, Geography - University of Vienna**
Dept. of Geography and Regional Research, Geomorphological Systems and Risk Research Group (ENGAGE).
PhD. Thesis title: "Landslide susceptibility mapping at varied scales. Methodological designs adaptations to cope with common input data related challenges".
Advisor: Univ.-Prof. Dipl.-Geogr. Dr. Thomas Glade
Link: <https://ubdata.univie.ac.at/AC16738442>
- 2013 – 2015  **MSc, Geography - Federal University of Rio de Janeiro, UFRJ, Brazil**
Dept. of Geography, Institute of Geosciences.
MSc. Thesis title: "The Drainage Efficiency Index (DEI) as a subsidy for a spatial analysis of areas susceptible to mass-movements occurrence". (Title translated from Portuguese)
Advisor: Univ.-Prof. Dr. Manoel do Couto Fernandes and Univ.-Prof. Dr. Ana Luiza Coelho Netto
Link: <http://objdig.ufrj.br/16/teses/831103.pdf>
- 2007 – 2012  **BSc, Biology, with a minor in environmental Sciences - Fluminense Federal University, UFF, Brazil**
Dept. of Biology, Institute of Biology.
BSc. Monography title: "Extreme rainfall events and sediment production in two different forested catchments in the Tijuca Massif - RJ: influences of recovering landslide, roads, and trails on rates of sediment yield and transport". (Title translated from Portuguese)
Advisor: Univ.-Prof. Dr. Ana Luiza Coelho Netto









Relevant work experience

- 2021 –  **Researcher; Principal Investigator (PI) at Universität Wien**  **ENGAGE- UN-VIE**
Project leader: Univ.-Prof. Dipl.-Geogr. Dr. Thomas Glade
Department of Geography and Regional Research; ENGAGE - Geomorphological Systems and Risk Research
- Main activities include:** Handling and integrating a landslide database into predictive modeling using statistical techniques. In addition to these tasks, my contributions extend to writing publications and actively participating in relevant conferences. Tech tools used on a daily basis: ArcGIS, R, QGIS, and Git.






Relevant work experience (continued)

- 2019 – 2021  **Data Scientist** at Ubiq.ai  www.ubiq.ai/
- Main activities include:** Development of dynamic spatiotemporal models for predicting shared mobility demand (cars and moped fleets) for cities like Berlin, Budapest, Vienna, Dubai, and Washington DC. A significant part of my work involves the pre-processing, engineering, and preparation of large databases for the demand-prediction pipeline. Tech tools used on a daily basis: R, SQL, FME, QGIS, and Git.
- 2019 – 2019  **Visiting researcher**, EURAC, Inst. for Earth Observation.  www.eurac.edu/
- 2015 – 2019  **External PhD student** at Universität Wien; Department of Geography and Regional Research; ENGAGE - Geomorphological Systems and Risk Research  [ENGAGE-UNVIE](#)
- Scholarship holder from the *Conselho Nacional de Desenvolvimento Científico e Tecnológico*, CNPq, Brazil.
- 2013 – 2013  **Environmental Analyst** at Terra Nova Escritório de Projetos Sociais e Ambientais.
- 2012 – 2012  **Project employee; GIS specialist** at "Geological-Geotechnical mapping update and evaluation of slope stability of the CNAEA nuclear power plant, Angra Dos Reis, RJ, Brazil". (Title translated from Portuguese)
- 2011 – 2012  **Project employee; GIS specialist** at "Landslide susceptibility and risk mapping of the Angra dos Reis municipality, RJ, Brazil" (Title translated from Portuguese)

Skills


- Languages  Portuguese - Mother language.
English - Fluent in spoken and written.
German - Good comprehension skills, while lower communication ability.
- Computer skills   -R;  -Python;  -SQL;  -Git;  -L^AT_EX; Microsoft Office; E-Learning;  -GIS (ArcGIS, ArcPRO, QGIS); numerical modeling (e.g., *r.avaflow*) ...

Teaching contributions

- 2019 & 2022  University of Vienna: Basics in Earth Surface Dynamics and Management (290023 VU)
- 2020  University of Vienna: Current research spectrum in geomorphology
-  University of Vienna: Scientific Progress in Geomorphology (290212 VU)
- 2019  University of Vienna: Modelling in Physical Geography (290131 UE)
- 2014  Federal University of Rio de Janeiro: Hidrologia aplicada (*Applied hydrology*) (IGG-603)

Research Publications

Peer reviewed Items - Journal Articles

- 1 **Lima, P.**, Steger, S., Glade, T. & Mergili, M. Conventional data-driven landslide susceptibility models may only tell us half of the story: Potential underestimation of landslide impact areas depending on the modeling design. *Geomorphology*, 108638. ISSN: 0169-555X.  <http://www.sciencedirect.com/science/article/pii/S0169555X23000582> (2023).

- 2 **Lima, P.**, Steger, S., Murillo-García, F. & Glade, T. Literature review and bibliometric analysis on data-driven assessment of landslide susceptibility. *Journal of Mountain Sciences*. **19**, 1670–1698. ISSN: 1612-5118. <https://doi.org/10.1007/s11629-021-7254-9> (2022).
- 3 **Lima, P.**, Steger, S. & Glade, T. Counteracting flawed landslide data in statistically based landslide susceptibility modelling for very large areas: a national-scale assessment for Austria. *Landslides*. ISSN: 1612-5118. <https://doi.org/10.1007/s10346-021-01693-7> (2021).
- 4 Lin, Q., **Lima, P.**, Steger, S., Glade, T., Jiang, T., Zhang, J., Liu, T. & Wang, Y. National-scale data-driven rainfall induced landslide susceptibility mapping for China by accounting for incomplete landslide data. *Geoscience Frontiers* **12**, 101248. ISSN: 1674-9871. <https://www.sciencedirect.com/science/article/pii/S1674987121001122> (2021).
- 5 Fernandes, M. C., Oliveira, L. F. B., Colares, I. V. V., Araújo, R. S. & **Lima, P.** Comportamento de análises em superfície planimétrica e modelada frente a representações cartográficas e índices geomorfológicos - bacia do Rio Cuiabá - Petrópolis (RJ). *Revista Brasileira de Geomorfologia* **18**. <https://rbgeomorfologia.org.br/rbg/article/view/1210> (2017).

Peer reviewed Items - Books and Book chapters

- 1 **Lima, P.**, Steger, S., Glade, T., Tilch, N., Schwarz, L. & Kociu, A. *Landslide Susceptibility Mapping at National Scale: A First Attempt for Austria* en. in (eds Mikos, M., Tiwari, B., Yin, Y. & Sassa, K.) Springer International Publishing, Cham, **2017**, 943–951. *Advancing Culture of Living with Landslides*. WLF 2017 ISBN: 978-3-319-53498-5. https://link.springer.com/chapter/10.1007/978-3-319-53498-5_107.
- 2 Coelho Netto, A. L., Silva, R., Facadio, A. C. & **Lima, P.** Movimentos gravitacionais de massa e evolução das encostas montanhosas em regiões tropicais: estudos em Nova Friburgo, RJ. in (eds Silva Nunes, A. L. L., Mahler, C. F., Danziger, F. A. B., de Oliveira e Castro, F. J. C., Lopes, F. R., Aragão, F. T. S., Martins, I. S. M. & Goretti da Motta, L. M.) Outras Letras, **2016**, 235–241. *Willy Lacerda: doutor no saber e na arte de viver*.
- 3 Coelho Netto, A. L., Avelar, A. D. S., Sato, A. M., Fernandes, M. D. C., Oliveira, R. R., Costa, R. V., Barbosa, L. S., **Lima, P.** & Lacerda, W. A. *Landslides Susceptibility and Risk Zoning at Angra Dos Reis, Rio de Janeiro State, SE-Brazil: a quali-quantitative approach at 1: 5,000 scale*. in (eds Lacerda, W. A., Palmeira, E. M., Coelho Netto, A. L. & Ehrlich, M.) Oficina de Textos, São Paulo, SP, Brazil, **2014**, 263–296. *Extreme Rainfall Induced Landslides an International Perspective* ISBN: 978-85-7975-150-9. https://s3-sa-east-1.amazonaws.com/ofitexto.arquivos/sumarios/Extreme-rainfall-induced-landslides_sum.pdf.
- 4 Coelho Netto, A. L., Sato, A. M., de Souza Avelar, A., Vianna, L. G. G., Araújo, I. S., Ferreira, D. L. C., **Lima, P.**, Silva, A. P. A. & Silva, R. P. *January 2011: The Extreme Landslide Disaster in Brazil* in (eds Margottini, C., Canuti, P. & Sassa, K.) Springer Berlin Heidelberg, Berlin, Heidelberg, **2013**, 377–384. *Landslide Science and Practice: Volume 6: Risk Assessment, Management and Mitigation* ISBN: 978-3-642-31319-6. https://doi.org/10.1007/978-3-642-31319-6_51.

Thesis and monographs

- 1 **Lima, P.** *Landslide susceptibility mapping at varied scales: methodological design adaptations to cope with common input data-related challenges* **Doctoral Thesis**. Supervisor: Prof. Dr. Glade, T. (Wien, **2022**). <https://ubdata.univie.ac.at/AC16738442>.
- 2 **Lima, P.** *O índice de eficiência de drenagem como subsidio á análise espacial de áreas suscetíveis a ocorrência de movimentos de massa*. **Master Thesis**. (Universidade Federal do Rio de Janeiro, **2015**). <http://objdig.ufrj.br/16/teses/831103.pdf>.
- 3 **Lima, P.** *Eventos extremos de chuva e produção de sedimentos em duas diferentes bacias florestadas no Maciço da Tijuca - RJ: influências de clareiras de deslizamentos, estradas pavimentadas e trilhas na taxa de produção e transporte de sedimentos*. (Unpublished) **Monography; Bachelor**. Supervisor: Prof. Dr. Couto Fernandes, M. and Prof. Dr. Coelho Netto, A. L. (Universidade Federal Fluminense, **2012**).

Conference Proceedings. Including oral, or poster presentations









- 1 **Lima, P.**, Steger, S., Petschko, H., Goetz, J., Bertagnoli, B., J. S. & Glade, T. *A framework to update 10-year-old landslide susceptibility predictions - assessing the accuracy of existing landslide susceptibility models* in *Geophysical Research Abstracts* Vol. 23 (EGU23-7080) (2023). <https://meetingorganizer.copernicus.org/EGU23/EGU23-7080.html>.
- 2 **Lima, P.**, Moreno, M., Steger, S., Camarinha, P. I., Coelho, L. C. T., Mandarino, F. C. & Glade, T. *DEVELOPING A SPATIOTEMPORAL MODEL TO INTEGRATE LANDSLIDE SUSCEPTIBILITY AND CRITICAL RAINFALL CONDITIONS. A PRACTICAL MODEL APPLIED TO RIO DE JANEIRO MUNICIPALITY* in *Landslide Science for Sustainable Development. Proceedings of the 6th World Landslide Forum* (OIC S.r.l., Firenze, Italy, 2023). ISBN: 9791221048063. https://wlf6.org/wp-content/uploads/2023/11/WLF6_ABSTRACT-BOOK.pdf.
- 3 **Lima, P.**, Steger, S., Petschko, H., Goetz, J., Schweigl, J., Bertagnoli, M. & Glade, T. *UPDATE LANDSLIDE SUSCEPTIBILITY MODELLING - A NEW FRAMEWORK TO COMPARE AND UPDATE A REGIONAL SCALE LANDSLIDE SUSCEPTIBILITY MODEL* in *Landslide Science for Sustainable Development. Proceedings of the 6th World Landslide Forum* (eds Tofani, V., Casagli, N., Bandecchi, E., Gargini, E. & Armignacco, D.) (OIC S.r.l., Firenze, Italy, 2023). ISBN: 9791221048063. https://wlf6.org/wp-content/uploads/2023/11/WLF6_ABSTRACT-BOOK.pdf.
- 4 Arango Carmona, M. I., **Lima, P.**, Mergili, M. & Glade, T. *Mobility and hazard analysis of selected landslides in Lower Austria* in *Geophysical Research Abstracts* Vol. 22 (EGU22-8646) (2022). <https://doi.org/10.5194/egusphere-egu22-8646>.
- 5 Jiménez Donato, Y. A., **Lima, P.**, Arango Carmona, M. I. & Glade, T. *Risk assessment of earth mass movements in Lower Austria. Case study: NoeMOTION Project* in *10th International Conference on Geomorphology, Coimbra, Portugal, 12–16 Sep 2022* ICG2022-616 (University of Coimbra, Portugal, 2022). <https://doi.org/10.5194/icg2022-616>.
- 6 **Lima, P.**, Steger, S., Petschko, H., Goetz, J., Schweigl, J., Bertagnoli, M. & Glade, T. *Exploiting newly available landslide data to verify existing landslide susceptibility maps a decade after their implementation* in *Geophysical Research Abstracts* Vol. 22 (EGU22-7351) (2022). <https://meetingorganizer.copernicus.org/EGU22/EGU22-7351.html>.
- 7 **Lima, P.**, Steger, S., Petschko, H., Goetz, J., Schweigl, J., Bertagnoli, M. & Glade, T. *How well do landslide susceptibility maps hold up over time? Reviewing the accuracy of maps implemented for spatial planning in Lower Austria* in *10th International Conference on Geomorphology, Coimbra, Portugal, 12–16 Sep 2022* ICG2022-154 (University of Coimbra, Portugal, 2022). <https://doi.org/10.5194/icg2022-154>.
- 8 **Lima, P.**, Steger, S., Glade, T. & Mergili, M. *Enhancing the completeness of statistical landslide susceptibility modeling by integration of release and propagation zones* in *Geophysical Research Abstracts* Vol. 20 (2020-8630) (2020). <https://meetingorganizer.copernicus.org/EGU2020/EGU2020-8630.pdf>.
- 9 **Lima, P.**, Steger, S. & Glade, T. *Evaluation of statistical and machine learning based landslide susceptibility models for very large areas – coping with error prone input data* in *Geophysical Research Abstracts* Vol. 21 (EGU2019-11314) (2019). <https://meetingorganizer.copernicus.org/EGU2019/EGU2019-11314.pdf>.
- 10 **Lima, P.**, Steger, S., Glade, T. & Mergili, M. *Combining landslide susceptibility with potential runoff: an integrative approach combining data-driven methods* in *Abstract book of the IAG, Regional conference on Geomorphology 2019* So6. Geomorphological hazards and risks (University of Athens, Greece, 2019). http://www.geomorph.org/wp-content/uploads/2020/01/RCG2019_Abstract-book_20200108.pdf.
- 11 **Lima, P.**, Steger, S. & Glade, T. *Landslide susceptibility mapping at national scale for Austria. Scientific challenges within applicable solutions* in *3. Geographie-Werkstatt Österreich 2018: 'Von Anthropozän bis Digitalisierung? Geographische Forschung und gesellschaftliche Herausforderungen'* (2018).
- 12 **Lima, P.**, Steger, S. & Glade, T. *Modelling strategies to cope with limitations of statistical landslide susceptibility models applied for large areas. A national scale study for the Austrian territory* in *Geophysical*

Research Abstracts Vol. 20 (EGU2018-9067) (2018). <https://meetingorganizer.copernicus.org/EGU2018/EGU2018-9067.pdf>.







- 13 Coelho Netto, A. L., Facadio, A. C., Silva, R. & **Lima, P.** Bioclimatic changes and landslide recurrence in the mountainous region of Rio de Janeiro: are we ready to face the next landslide disaster? in Geophysical Research Abstracts Vol. 19 (EGU2017-17718) (2017). <https://meetingorganizer.copernicus.org/EGU2017/EGU2017-17718.pdf>.
- 14 **Lima, P.**, Steger, S. & Glade, T. Comparison of non-landslide sampling strategies to counteract inventory-based biases within national-scale statistical landslide susceptibility models in Geophysical Research Abstracts Vol. 19 (EGU2017-13523) (2017). <https://meetingorganizer.copernicus.org/EGU2017/EGU2017-13523.pdf>.
- 15 **Lima, P.**, Coelho Netto, A. L. & Fernandes, M. C. The drainage efficiency index (DEI) as a morphological indicator of landslide spatial occurrence in mountainous catchments. A case of study applied in the mountainous region of Brazilian Southeastern in Geophysical Research Abstracts Vol. 18, EGU2016-7750 (2016). <https://meetingorganizer.copernicus.org/EGU2016/EGU2016-7750.pdf>.
- 16 **Lima, P.**, Coutinho, B. H., Gomes, G. B. & Coelho Netto, A. L. Topographic Parameters related to translational landslide occurrence and susceptibility mapping at Córrego Dantas, Nova Friburgo, RJ. in II International Workshop on Landslide History, Mechanisms and Controlling Variables: scientific basis for risk assessment (2015).
- 17 Borges, G. F., **Lima, P.** & Avelar, A. S. Geomorfologia, solos e movimentos de massa ocorridos em janeiro de 2011 na bacia do Córrego Dantas, Nova Friburgo (RJ) in Revista Geonorte - Edição Especial 4: SINAGEO - Geomorfologia de Encostas 5 (Universidade Federal do Amazonas, out. 2014), 141-144. <https://www.periodicos.ufam.edu.br/index.php/revista-geonorte/article/view/1291>.
- 18 Borges, G. F., **Lima, P.** & Avelar, A. S. Geomorfologia, solos e movimentos de massa ocorridos em janeiro de 2011 na bacia do Córrego Dantas, Nova Friburgo (RJ) in Anais do 4: SINAGEO - Geomorfologia de Encostas (out. 2014).
- 19 **Lima, P.**, Coutinho, B. H., Gomes, G. B., Fernandes, M. C. & Coelho Netto, A. L. Parâmetros morfométricos relacionados às bacias de 1ª ordem e a ocorrência de deslizamentos rasos na bacia do Córrego Dantas: Nova Friburgo - RJ in Revista Geonorte - Edição Especial 4: SINAGEO - Geomorfologia de Encostas 5 (Universidade Federal do Amazonas, out. 2014), 218-223. <https://www.periodicos.ufam.edu.br/index.php/revista-geonorte/article/view/1305>.
- 20 Araujo, I. S., Barbosa, L. S., **Lima, P.**, Avelar, A. S. & Rotunno Filho, O. C. Modelagem Hidrológica das interações de uso urbano e cobertura vegetal na bacia do Rio Cachoeira, Maciço da Tijuca - RJ. in Geomorfologia e eventos catastróficos: passado, presente e futuro. Anais do 9 Sinageo: Geomorfologia de encostas (2012). <http://www.sinageo.org.br/2012/trabalhos/2/2-506-633.html>.
- 21 Barbosa, L. S., **Lima, P.**, Araújo, I. S., Sato, A. M. & Avelar, A. S. Carta geomorfológica em base funcional como subsidio a carta de suscetibilidade aos movimentos de massa: estudo de caso no município de Angra dos Reis, RJ. in XXXIV Jornada de Iniciação Científica, UFRJ (2012).
- 22 Barbosa, L. S., **Lima, P.**, Negreiros, A. B. & Coelho Netto, A. L. Respostas hidrológicas e produção de sedimentos em uma clareira de deslizamento em ambiente montanhoso florestal, Maciço da Tijuca, Rio de Janeiro, Brasil in I Congresso Internacional Geociências na CPLP (2012).
- 23 **Lima, P.**, Barbosa, L. S., Negreiros, A. B. & Coelho Netto, A. L. Impulsos Variáveis de Chuvas e Descarga de Sedimentos em duas Diferentes Bacias no Maciço da Tijuca (Rio de Janeiro, Brasil): influências de clareiras de deslizamentos, estradas pavimentadas e trilhas. in I Congresso Internacional Geociências na CPLP (2012).
- 24 Negreiros, A. B., **Lima, P.**, Barbosa, L. S. & Coelho Netto, A. L. Avaliação da Recuperação vegetal e respostas hidro-erosivas em cicatrizes de deslizamentos em área montanhosa de floresta Atlântica, Maciço da Tijuca, RJ. in Geomorfologia e eventos catastróficos: passado, presente e futuro. Anais do 9 Sinageo: Geomorfologia de encostas (2012). <http://www.sinageo.org.br/2012/trabalhos/1/1-678-670.html>.

- 25 Negreiros, A. B., **Lima, P.**, Barbosa, L. S. & Coelho Netto, A. L. *Recuperation of Atlantic Forest and Hydro-Erosive Responses in Landslides Scars on Steep Slopes, Rio de Janeiro, Brasil* in *Newport. The US-IALE 2012 Abstract Book, 2012* (2012).
- 26 Barbosa, L. S., Silva, R. P., **Lima, P.** & Coelho Netto, A. C. *Respostas hidrológicas e produção de sedimentos numa clareira de deslizamento em ambiente montanhoso.* in *XXXIII Jornada Giulio Massarani de Iniciação Científica, Artística e Cultural, UFRJ* (2011).
- 27 **Lima, P.**, Silva, R. P., Barbosa, L. S. & Coelho Netto, A. C. *Impulsos variáveis de chuvas e descarga de sedimentos em pequenas bacias florestadas no Maciço da Tijuca: influências de clareiras de deslizamentos, estradas pavimentadas e trilhas.* in *XXXIII Jornada Giulio Massarani de Iniciação Científica, Artística e Cultural, UFRJ* (2011).
- 28 Silva, R. P., Barbosa, L. S., **Lima, P.** & Coelho Netto, A. C. *Mapeamento de fontes de produção de sedimentos em encostas montanhosas sob Floresta Atlântica: Parque Nacional da Tijuca (PNT), Maciço da Tijuca, Rio de Janeiro* in *XXXIII Jornada Giulio Massarani de Iniciação Científica, Artística e Cultural, UFRJ* (2011).
- 29 **Lima, P.**, Faria, F. H. C. & Coelho Netto, A. C. *Reabilitação funcional em clareiras de deslizamentos na floresta atlântica e efeitos na produção de sedimentos em períodos chuvosos.* in *XXXII Jornada Giulio Massarani de Iniciação Científica, Artística e Cultural, UFRJ* (2010).






Further relevant education

- 2019  Introduction to Working on the VSC-3 Cluster. (Workload: 8h). Vienna Scientific Cluster Research Center, VSC, Austria.
-  Linux and First Steps on the VSC-3 Cluster. (Workload: 8h). Vienna Scientific Cluster Research Center, VSC, Austria.
-  Professional Presentation of Research Results (Winterterm 2018). (Workload: 20h). Universität Wien, UNIVIE, Austria.
-  International Summer School on Geospatial Data Science Using R. (Workload: 38h). Friedrich-Schiller-Universität Jena, UNI/Jena, Germany.
- 2018  How to Approach Proposal Writing for Postdoc Funding Applications. (Workload: 20h). Universität Wien, UNIVIE, Austria.
- 2016  R - Advanced. (Workload: 20h). Universität Wien, UNIVIE, Austria.
-  Introduction to R. (Workload: 20h). Universität Wien, UNIVIE, Austria.
-  Laram School - International school on landslide risk assessment and mitigation. (Workload: 80h). Università degli Studi di Salerno, UniSa, Italy.

Services to the discipline - Reviewer of scientific publications

- 2022  Geoenvironmental Disasters
- 2018-2022  Natural Hazards (NHAZ)
- 2021  Scientific Reports. Nature
- 2019  5th World Landslide Forum
- 2018-2019  Environmental Modeling & Assessment
- 2016  4th World Landslide Forum

Grants & awards

- 2015 - 2019  Grants: *Conselho Nacional de Desenvolvimento Científico e Tecnológico*, CNPq, Brazil.
- 2013 - 2015  Grants: *Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do RJ*, FAPERJ, Brazil.
- 2010-2011  Grants: *Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do RJ*, FAPERJ, Brazil.
- 2014  Award: BOLSA NOTA 10, *Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do RJ*, FAPERJ, Brazil.
- 2013  Award: COBRAE 2013. Best contributions of COBRAE 2013 - Parallel Session (Field Investigations), Brazilian Association of Soil Mechanics.