

Curriculum Vitae - Jaboyedoff Michel

Last name: Jaboyedoff

First name: Michel

University: University of Lausanne

Professional title: Full Professor of Institute of Earth Sciences

1999 PhD Thesis subject in clay mineralogy (University of Lausanne, Switzerland)

1990 Degree in physics (University of Lausanne, Switzerland)

1986 Master in geology (University of Lausanne, Switzerland)

1980 EPFL admission by special mathematics course (EPFL, Switzerland)

Professional experience

01.2019-now Director of Institute of Earth Sciences (ISTE) (UNIL)

08.2016-07.2018 Vice-Dean for Research, Communication and Quality of the Faculty of Geosciences and Environment at University of Lausanne (UNIL)

02.2016-2020 Adjunct professor at University of LAVAL (Québec)

08.2013-08.2016 Vice-director of ISTE at FGSE of UNIL

08.2012-07.2013 Vice-director of Center for Research on Terrestrial Environment at FGSE of UNIL

03.2005-Present Full Professor at Institute of Earth Sciences at Faculty of Geosciences and environment of University of Lausanne (UNIL)

2008-2010 Director Institute of geomatic and risk (IGAR)

02.2003-03.2005 Joint project Geological survey of Canada-Quanterra: development of a software of terrain analysis

06.2001-10.2002 Researcher at EPFL Swiss Federal Institute of Technology, Lausanne – ENAC – Rock mechanics laboratory

08.1994-06.1994 /04.2000-5.2001 Researcher at CREALP (Research center of alpine environment) and University of Lausanne (UNIL)

Selected main research projects (past 5 years)

Understanding loCal Risk cUlture(s) in the context of climate Crisis: AvaLanche hazard from the perspective of anthropology and natural sciences & technologies / CRUCIAL (2023-2024): join CROSS project with EPFL Dre F. Graezer Bideau.

ValP - Express : un métro à grande vitesse pour une mobilité durable dans les Alpes : Un métro alpin à grande vitesse pour réaliser des gains énergétiques (2022-2021) : join CLIMACT project with EPFL Prof. L. Laloui.

Analysis of la Brenva Aosta (2017-2023): monitoring Evolution of the instability of la Brenva Mont Blanc massif financed by the Aosta region.

Analyse des incidences induites par le changement climatique dans la gestion intégrée des risques liés aux dangers naturels sur le territoire vaudois, support à la cellule de projet CDN-VD et thèse de doctorat : project financed by the Canton of Vaud.

Study of the instabilities of the Cima del Simano (2020-2023): project financed by the Canton of Ticino.

Factual analysis of the Granges quarry landslide of 3 October 2017 (2021-2022): in the context of the Le Locle bypass road FEDRO project

Quaternary mapping for natural hazards for Canton de Vaud (2020-2021): Development map of quaternary deposits for mass movement susceptibility

Rockfall modelling Tool for Canton de Vaud (2018→): Development of rockfall model including impacts against trees and associated documentation (<https://stnparabel.org/>)

La Brenva instability study for Val D'Aosta Regione (2017-→): Analysis of the potential rockslide falling on the glacier in the Mont-Blanc massif.

Kii Mountain (Japan) landslide analysis using DEM (2015→2019): project about the analysis of large landslide failure surface using Lidar DEM, project funded by DPRI and supported by Prof. Chigira (DPRI – University of Kyoto).

1.1 Editorial responsibilities

- **Member of the Editorial Board:** *Engineering Geology* Editorial Board
- Often work as **Specific Paper Editor** for *Landslides* journal
- **Reviewer** for the **37 kinds** of high-level international journals, such as *Nature Communication*, *Nature Reviews Earth & Environment*, *Engineering Geology*, *Geology*, *Geomorphology*, *Landslides*, *Natural Hazards* etc.

1 Awards

- **2023** Engineering Geology 2023 Best Paper Award

- **2017** 2017 DPRI Award, University of Kyoto.
- **2012** Best Paper Award 2011 in Landslides.
- **2000** Science faculty award of University of Lausanne for PhD thesis.

2 Publication list

2.1 Books

Jaboyedoff, M., Locat J., Derron M.-H. et Michoud C.(editeur) (**in prep**): Traité sur les glissements de terrain et autres mouvements gravitaires. Presse polytechnique romande

2.2 Selected publications in peer reviewed ranked journals (past 5 years)

1. Fei, L., Jaboyedoff, M., Guerin, A., Noël, F., Bertolo, D., Derron, M.-H., Thuegaz, P., Troilo, F. & Ravel, L. 2023. Assessing the rock failure return period on an unstable Alpine rock wall based on volume-frequency relationships: The Brenva Spur (3916 m a.s.l., Aosta Valley, Italy). *Engineering Geology*, 323, 107239, doi: <https://doi.org/10.1016/j.enggeo.2023.107239>.
2. Wang, J., Chen, G., Jaboyedoff, M., Derron, M.-H., Li, F., Li, H. & Luo, X. 2023. Loess landslides detection via a partially supervised learning and improved Mask-RCNN with multi-source remote sensing data. *Catena*, 231, 107371, doi: <https://doi.org/10.1016/j.catena.2023.107371>.
3. Noël, F., Nordang, S.F., Jaboyedoff, M., Travelletti, J., Matasci, B., Digout, M., Derron, M.-H., Caviezel, A., Hibert, C., Toe, D., Talib, M., Wyser, E., Bourrier, F., Toussaint, R., Malet, J.-P. & Locat, J. 2023. Highly energetic rockfalls: back analysis of the 2015 event from the Mel de la Niva, Switzerland. *Landslides*, 20, 1561-1582, doi: 10.1007/s10346-023-02054-2.
4. Wyser, E., Alkhimenkov, Y., Jaboyedoff, M., and Podladchikov, Y. Y. (2021). An explicit GPU-based material point method solver for elastoplastic problems (ep2-3De v1.0), *Geosci. Model Dev.*, 14, 7749–7774.
5. Franz, M., Jaboyedoff, M., Mulligan, R. P., Podladchikov, Y., & Take, W. A. (2021). An efficient two-layer landslide-tsunami numerical model: effects of momentum transfer validated with physical experiments of waves generated by granular landslides. *Natural Hazards and Earth System Sciences*, 21(4), 1229-1245.
6. Jaboyedoff, M., Choanji, T., Derron, M.-H., Fei, L., Gutierrez, A., Loiotine, L., Noel, F., Sun, C., Wyser, E., Wolff, C. (2021). Introducing Uncertainty in Risk Calculation along Roads Using a Simple Stochastic Approach. *Geosciences*, 11(3).
7. Guerin, A., Jaboyedoff, M., Collins, B.D., Stock, G.M., Derron, M.-H., Abellán, A., Matasci, B., (2021). Remote thermal detection of exfoliation sheet deformation. *Landslides*, 18(3), 865-879.
8. Jaboyedoff M., Carrea D., Derron M.-H., Oppikofer T., Penna I.M., Ruda B., (2020). A review of methods used to estimate initial landslide failure surface depths and volumes. *Engineering Geology*, 267, 105478. <https://doi.org/10.1016/j.enggeo.2020.105478>
9. Guerin, A., Ravel, L., Matasci, B., Jaboyedoff, M., Deline, P. (2020). The three-stage rock failure dynamics of the Drus (Mont Blanc massif, France) since the June 2005 large event. *Scientific Reports*, 10(1), 17330.
10. Guerin, A., Stock, G.M., Radue, M.J., Jaboyedoff, M., Collins, B.D., Matasci, B., Avdievitch, N. and Derron, M.H. (2020). Quantifying 40 years of rockfall activity in Yosemite Valley with historical Structure-from-Motion photogrammetry and terrestrial laser scanning. *Geomorphology*. 356, 107069.
11. Mergili, M., Jaboyedoff, M., Pullarello, J., and Pudasaini, S. P. (2020). Back calculation of the 2017 Piz Cengalo-Bondo landslide cascade with r.avaflow: what we can do and what we can learn, *Nat. Hazards Earth Syst. Sci.*, 20, 505–520.
12. *Penna, I.M., Hermanns, R.L., Nicolet, P., Morken, O.A., Dehls, J., Gupta, V., Jaboyedoff, M., 2020. Airblasts caused by large slope collapses. *GSA Bulletin*. <https://doi.org/10.1130/B35531.1>
13. Pudasaini, S.P., Jaboyedoff, M. (2020). A general analytical model for superelevation in landslide. *Landslides*. 17, 1377–1392.
14. Jaboyedoff, M., Chigira, M., Arai, N., Derron, M.-H., Rudaz, B., and Tsou, C.-Y. (2019). Testing a failure surface prediction and deposit reconstruction method for a landslide cluster that occurred during Typhoon Talas (Japan), *Earth Surf. Dynam.*, 7, 439-458.

3 Publications

Total of **40** articles in **2019-23** in peer reviewed ranked journals.

Total of **202** articles cited **6691** in **Web of Science (all database)**. **170** articles peer reviewed ranked journals and **169** articles in books chapters specialized review or conf. Proceedings, a total of **13146 (h=58)** citations in **Google scholar**.

(<https://scholar.google.ch/citations?user=mIwz4vEAAA&hl=en>)

Welcome to the internet site of Prof.Michel <https://wp.unil.ch/risk/> to get the full information.

Lausanne, 28 August 2023