

LUKAS BODENMANN

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 Stefano Franscini-Platz 5, 8044 Zürich, Switzerland
 Mail ·  Website ·  GitHub ·  LinkedIn

SUMMARY

Doctoral student in engineering with strong background in statistics and professional experience in infrastructure asset management.

EDUCATION

ETH Zürich

Doctoral student

Research group of Professor Božidar Stojadinović

Thesis: Data-efficient learning techniques to improve probabilistic modelling of earthquake consequences on spatially distributed assets

8/2019 - present

Zurich, Switzerland

Stanford University

Visiting Student Researcher

Research group of Professor Jack W. Baker

Project: Accounting for path and site effects in spatial ground motion correlation models using Bayesian inference

3/2022 - 9/2022

Stanford, California

ETH Zürich

MSc in Civil Engineering

Major in Structural and Geotechnical Engineering

Thesis: Application and comparison of financial risk measures in earthquake engineering

9/2015 - 6/2017

Zurich, Switzerland

ETH Zürich

BSc in Civil Engineering

Thesis: Strength development of fibre-reinforced concrete during hydration phase

9/2011 - 6/2014

Zurich, Switzerland

PROFESSIONAL EXPERIENCE

Asset Manager for Engineering Structures

Swiss Federal Railways (SBB)

Data analysis for risk management and long term financial planning | technical consultancy for construction projects | development of guidelines for bridge inspection and maintenance | specification of requirements for asset management software

9/2017 - 6/2019

Bern, Switzerland

Engineering Intern

Afry

Feasibility studies and stress analysis in structural and geotechnical engineering

9/2014 - 5/2015

Zurich, Switzerland

SKILLS

Languages

Native: German

Professional: English | French

Beginner: Spanish

Programming

Python | Matlab | QGIS | Latex

HONORS & AWARDS

ETH Medal

07/2017

Award for an outstanding master's thesis at ETH Zurich.

Willi Studer Prize

07/2017

Award for the best master's degree in civil engineering at ETH Zurich.

PUBLICATIONS

Journal Publications

Bodenmann, L., Baker, J.W., and Stojadinović, B.: Accounting for path and site effects in spatial ground-motion correlation models using Bayesian inference. *Natural Hazards and Earth System Sciences* doi:10.5194/nhess-23-2387-2023 **2023**

Bodenmann, L., Broccardo, M., Galanis, P., and Stojadinović, B.: The Role of risk measures in relating earthquake risks at building and portfolio levels. *Earthquake Engineering & Structural Dynamics* doi:10.1002/eqe.3878 **2023**

Bodenmann, L., Reuland, Y., and Stojadinović, B.: Dynamic post-earthquake updating of regional damage estimates using Gaussian processes. *Reliability Engineering and System Safety* doi:10.1016/j.res.2023.109201 **2023**

Bodenmann, L., Galanis, P., Broccardo, M., and Stojadinović, B.: The role of risk measures in making seismic upgrading decisions. *Earthquake Spectra* doi:10.1177/8755293020919423 **2020**

Conference Proceedings

Blagojević, N., **Bodenmann, L.**, Reuland, Y., and Stojadinović, B.: Validating a resilience quantification framework: The case of 2010 Kraljevo earthquake. 3rd European Conference on Earthquake Engineering and Seismology (3ECEE), Bucharest, Romania. **2022**

Blagojević, N., **Bodenmann, L.**, Reuland, Y., and Stojadinović, B.: Improving community disaster resilience by providing adequate supply of recovery resources and services. 3rd European Conference on Earthquake Engineering and Seismology (3ECEE), Bucharest, Romania. **2022**

Bodenmann, L., Reuland, Y., and Stojadinović, B.: Dynamic updating of building loss predictions using regional risk models and conventional post-earthquake data sources. 31st European Safety and Reliability Conference (31ESREL), Angers, France. **2021**

Bodenmann, L., Reuland, Y., and Stojadinović, B.: Using regional earthquake risk models as priors to dynamically assess the impact on residential buildings after an event. Croatian Conference on Earthquake Engineering (1CroCEE), Zagreb, Croatia **2021**

Bodenmann, L., Galanis, P., Broccardo, M., and Stojadinović, B.: Comparison of different risk measures for portfolio-level earthquake risk assessment.. 17th World Conference on Earthquake Engineering (17WCEE), Sendai, Japan. **2020**

Bodenmann, L., Galanis, P., Broccardo, M., and Stojadinović, B.: The financial benefit of earthquake retrofitting in different hazard environments.. 11th U.S. National Conference on Earthquake Engineering (11NCEE), Los Angeles, California. **2018**