Dr. Valerio Poggi
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15th October 2017

Dear Selection Committee,

Please accept this resume as my application for a position of *Researcher* in the field of *Geophysics* and *Applied Seismology*. I believe I could be an ideal candidate, fulfilling the high-quality standards, motivation and dedication required for this role.

I am presently employed as *Earthquake Scientist* at the Global Earthquake Model (GEM) foundation, a no-profit organization aimed at development of tools and resources for transparent assessment of earthquake risk. My current major responsibility is in coordinating the development of the probabilistic seismic hazard model for the Africa continent.

I have been previously *Oberassistant* (senior researcher) and *Lecturer* at the *Swiss Federal Institute of Technology* (**ETH Zurich**, the **top first** university for Earth and Marine Sciences and **top five** for Engineering and Technology according to the QS World University Rankings), in the group of engineering seismology and within the Swiss Seismological Service.

As my publications record (in attachment) shows, my research covers a wide range of topics, covering different fields of geophysics and engineering seismology. My particular interests lie with signal processing (with special regards to *ambient vibration seismology* and the analysis of diffuse wave-field), surface-wave analysis, solution of inverse problems and engineering seismic site-response evaluation. I was recently working on issues related to the geophysical investigation of the near-surface at very different scales, from international *probabilistic seismic hazard assessment* (PSHA) to *microzonation*. The current target of my research aims to bridge the gap between geophysics and engineering seismology, with the development of new methods for *seismic site response analysi*s and *ground motion prediction*. Additionally, I have been involved in the development of new approaches for active/passive seismic surveys; extending the resolution of the P/S-wave velocity ground profiles to large depths and reducing the uncertainty level in the definition of the local seismic response. I also recently focused on problems related to modal analysis of 2D sedimentary basins, where I developed tools for spectral domain decomposition of ambient vibration array recordings.

Regarding my education, I first obtained my degree in Geology, with a specialization in Geophysics at the *University of Milano* (Italy). I achieved a Master's degree (**with honors**) in geophysics at the *National Research Council of Milano* (CNR, IDPA). The topic of my dissertation was the development of a multi-platform software package for

spectral analysis of soil-structure interaction using ambient vibrations. During my PhD studies at the *Geophysical Institute of ETH Zurich*, I focused on the development of new seismic techniques for site characterization based on the analysis of surface waves, from either passive (three-component f-k array analysis) or active (wavelet-based MASW) seismic recordings.

In my recent academic career I have been heavily involved in several national and international projects. These include nationally funded projects, such as the Swiss COGEAR (Coupled Seismogenic Geohazards in Alpine Regions) and SUIHAZ (the new seismic hazard zonation of Switzerland, still ongoing); industrial projects with international academic partners: PRP (Pegasos Refinement Project; the probabilistic seismic hazard evaluation for Swiss nuclear power plant sites) and NAGRA (The National Cooperative for the Disposal of Radioactive Waste); European Union funded projects such as NERIES (Network of Research Infrastructures for European Seismology), SHARE (Seismic Hazard Harmonization in Europe) as external expert; international USAID projects such as SSAHARA (the earthquake hazard and risk assessment for Sub-Saharan Africa). Previously I took part of the Swiss Federal Nuclear Safety Inspectorate's (ENSI) 'Strong Ground-Motion' advisory group. Being involved in these projects gave me the possibility to develop interactions and collaborations with different members of the scientific international community. This helped me to develop solid communicational and organizational skills in terms of project management, whilst allowing me to build an **effective collaborative network**.

I have collaborated to several successful research proposals, obtaining external funding from the Swiss Federal Office for Environment (BAFU), the Federal Nuclear Safety inspectorate (ENSI), SwissNuclear and the Swiss National Science Foundation.

My past research results have been presented in international peer-review journals with high-impact factor (Bulletin of the Seismological Society of America, Geophysical Journal International, Seismological Research Letters and Pure and Applied Geophysics) and discussed at several international conferences and workshops. I act as technical reviewer for many journals such as the Bulletin of the Seismological Society of America, the Geophysical Journal International, Natural Hazards and Soil Dynamics and Bulletin of Earthquake Engineering. I was chair for the session "*Multi-scale passive seismic imaging and monitoring*" at the Second European Conference on Earthquake Engineering and Seismology (2ECEES) in Istanbul (Turkey).

I have been **lecturer** of the Master's course "*Engineering Seismology*" at ETH. I have also lectured for the ETH Certificate of Advance Studies, directed at academia and industry; and the management and coordination of the field course of applied geophysics. I have supervised PhD, Bachelor and Master student projects, including the two pilot microzonation studies of Cairo and Bucharest, and the development of new strategies for resonance identification in 2D sedimentary basins (*awarded as outstanding master project*). My interests in education are also persistent in my private life, as I have been volunteering for educational projects of ETH (Seismo@School), for which I developed hands-on experiments for public exhibitions and demonstrations.

Through my excellent research and teaching skills, by promoting the most recent advances in seismology/geophysics and by establishing academic and industrial projects I am confident I can contribute to the development of an outstanding research and teaching program.

Thank you for your consideration.

Yours faithfully,

Valerio Poggi