

# Exposure Analyst

for the development of exposure and testing of risk models at national and regional scale

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The Global Earthquake Model (GEM) is a global collaborative effort that brings together state-of-the-art science, national, regional and international organisations and individuals aimed at the development of open tools, datasets and best practice for calculating and communicating earthquake hazard and risk worldwide.

GEM is leading several efforts to develop open exposure datasets, sets of fragility and vulnerability functions and seismic risk information at national, regional and global scale. These efforts are undertaken in close collaboration with partners from different countries, and aim at supporting decision-makers and other stakeholders in the development and implementation of seismic risk reduction measures. We are looking for a structural/earthquake engineer with expertise in one or more of the following disciplines: structural engineering, earthquake engineering and/or earthquake loss modelling.

**This position will have an initial duration of 2 years, starting in December 2023, and the primary duties for this position are:**

- Data mining and data collection regarding residential, commercial, and industrial buildings.
- Development of methodologies for the characterization of healthcare and educational facilities.
- Development of methodologies for the characterization of lifelines, infrastructure, and critical facilities.
- Development and improvement of exposure models for multi-hazard risk analysis.
- Verification and improvement of methodologies to improve the spatial resolution of exposure models.
- Assessment of probabilistic seismic risk, including the estimation of average annual losses, probable maximum losses, loss disaggregation and risk maps (in collaboration with a team of hazard modellers).
- Support the development of project proposals and support large organizations in the use of GEM products.

**The ideal candidate has:**

- Experience in the development of exposure and earthquake loss models.
- Experience in probabilistic and scenario-based hazard and risk assessment.
- Experience in performing risk analysis using the OpenQuake-engine.
- Experience working in international projects supported by USAID, World Bank, European Commission, etc.
- Experience in proposal writing.
- Strong background in statistics and reliability.
- Knowledge of scientific programming languages (e.g. Python, IPython notebooks) and in code/data development platforms such as Github or Gitlab.
- Proven ability to work in a multidisciplinary team.
- Availability to travel around the world.
- Strong multi-tasking and organizational skills.
- Passion for a humanitarian mission to reduce loss of lives and livelihoods due to earthquakes.

The position is open for an initial duration of two years, with possibility of continuation. English is the working language at GEM; the knowledge of second language can be a plus, but not required.

We look forward to hearing from you. Please apply to [vitor.silva@globalquakemodel.org](mailto:vitor.silva@globalquakemodel.org) with a cover letter/email explaining why you would be a good fit for the position, your resume/CV, list of references (minimum 2), and timeline of availability. This vacancy will remain open until a suitable candidate is found.