RESEARCH SCIENTIST – DIRECT LOSS MODELLING	
Company	METRICSAT
Work Location	Luxembourg
Employment Type	CDD

About METRICSAT

METRICSAT is a Luxembourg based company developing a product, an environmental intelligence platform for financial institutions. The product combines satellite and other environmental data to assess risks at asset and portfolio level.

We are expanding the platform with an economic loss module that estimates the financial consequences of environmental hazards, including physical damage to installations and associated business interruption.

The Role

Industrial PhD opportunity

We are seeking a quantitative researcher to develop models that translate environmental hazards into estimates of direct physical damage and financial loss. The position offers the opportunity to pursue a PhD alongside applied research within the company, subject to academic admission and agreement on the research and supervision arrangements.

Research Mission

You will help answer a central question: **How can environmental hazard information, asset characteristics and vulnerability be combined to estimate defensible direct losses?**

Your work will contribute to the products' Financial Loss Engine, helping financial institutions understand potential damage to the physical assets underlying their investments.

The initial research will focus on selected hazards and asset types, establishing validated methods before extending coverage.

Responsibilities

- Develop models linking hazard and physical damage.
- Build and evaluate vulnerability functions for selected physical asset types.
- Calibrate and validate models against observed events and independent datasets, using approaches that test performance across locations and events.
- Collaborate with environmental scientists, software engineers and finance specialists to integrate reproducible models into the platform.
- Scientific publications in peer review journals.

Profile

Essential

- A master's degree in applied mathematics, statistics, geospatial science, environmental science, or a related quantitative discipline.
- Strong skills in statistical modelling and numerical methods.
- Experience analysing complex datasets.
- An interest in environmental hazards.
- The ability to work independently, explain assumptions clearly and collaborate across disciplines.
- Strong written and spoken English.

An Advantage

- Experience with damage functions, catastrophe models, structural vulnerability or insurance loss modelling.
- Knowledge of GIS, Earth observation or spatial statistics.
- Familiarity with probabilistic modelling, Bayesian methods or machine learning.
- Experience with asset valuation, replacement costs or financial risk analysis.
- Familiarity with Git, reproducible research and cloud computing.

What The Opportunity Offers

- Applied research addressing a concrete need in financial risk assessment.
- Collaboration with a multidisciplinary team combining environmental science, technology and finance.
- The opportunity to develop doctoral research connected to practical model implementation.
- Access to company workflows and relevant datasets, subject to availability and access agreements.
- The opportunity to shape an emerging financial loss modelling capability.

Doctoral enrolment, supervision, research time, funding, publication rights and intellectual property arrangements will be agreed before the PhD begins.

How To Apply

Please send your CV and a short motivation letter to contact@metricsat.com , outlining your relevant modelling experience and interest in doctoral research. You may also include a dissertation summary, publication or code sample.

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