

**PhD Thesis / Master Internships in Software Engineering  
Software Verification and Validation Lab – University of Luxembourg**

The Software Verification and Validation Laboratory (<http://svv.lu>) is established since January 2012 and is supported by a PEARL grant awarded to Professor Lionel Briand by the Fonds National de la Recherche Luxembourg (FNR). Over the course of the last four years, the lab has acquired further competitive funding both from the FNR, the EU, and from several industry partners covering various domains such as public administration and e-government, automotive systems, satellite systems, or banking systems. The lab spans four important, overlapping, and complementary areas of software verification and validation: Automated Software Testing, Security Analysis, Requirements Quality Assurance, Run-time Verification, and Design-time Verification. Underlying and crosscutting technologies include Model-driven Engineering, Search-based Software Engineering, Natural Language Processing, and Program Analysis. All projects feature an empirical research component, mostly aimed at rigorously assessing the proposed solutions. In each area, the focus is mostly driven by the challenges faced by industry partners, which are rather representative of the needs of an industry or domain.

In the context of its recently awarded European Research Council (ERC) Advanced grant, and recently acquired projects, the lab is looking for highly motivated PhD Students (but also Masters Students with the possibility to continue for a PhD thesis if the internship is successful) willing to contribute to the above mentioned research areas and projects where the lab is involved such as testing critical systems, analytics and decision support in FinTechs (technology for Financial services) and RegTechs (technology for regulatory compliance and legal conformance).

The ideal PhD Candidate shall have or shall be pursuing a Masters degree in computer science, software engineering or informatics, with a strong background in one or more of the following areas: model-driven engineering (MDE), business process modeling (BPM), search-based software engineering (SBSE), software testing, model-checking, or data mining.

The successful Candidate will enroll in and follow the rules of the PhD program or Master internship at the University of Luxembourg, while being fully dedicated to SVV's research activities on a selected project. The group is highly international, including about 10 researchers and 12 PhD Candidates, from a dozen of different citizenships. The group is part of SnT, the Interdisciplinary Center on Security, Reliability and Trust from the University of Luxembourg, which has about 250 members coming from 50 different countries. English is the official working language, whereas French and German are also quite present in the center.

Salary for the successful PhD Candidate is around 2.200 euros (approximate net salary, may vary as taxes are computed according to the candidate's fiscal situation and directly retained) and includes social security benefits (but no complementary assurances) + additional lunch vouchers (about 150 euros), to be balanced with the cost of living (especially housing) in Luxembourg. For its students, the university has some apartments with a reasonable price for rent.

Contact point for more information:

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Dr. Mehrdad Sabetzadeh ([mehrdad.sabetzadeh@uni.lu](mailto:mehrdad.sabetzadeh@uni.lu)) (English)

Formal application to be sent to Prof. Lionel Briand ([lionel.briand@uni.lu](mailto:lionel.briand@uni.lu)) including a CV and a letter in English, reference letters if available, as well as Bachelor and Masters transcripts including courses and marks.