

Laurent Claessens

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<https://github.com/LaurentClaessens>

Software developer (C++, Java, Python)

Mathematics : numerical computation, differential geometry

French, Italian, English (fluent)

What I'm searching for

- Scientific research (mathematics, physics, ...);
- Software development (Python, C++, Java already known);
- Scientific computation, modeling, simulation.

Informatics

- Install, use and troubleshooting with **Linux**
- **Python** programming, including the packages of scientific computation **Sage**.
- Object oriented programming in **C++** (second year in informatics)
- Concurrent computing in **Java** (third year in informatics)
- **Scilab**, **Mathematica** and **Matlab**.

Education

2016-2017 Enter in third year of informatics as e-learning at Aix-Marseille.

2015-2016 C++, Java and numerical computation courses at university of Padua (Italy).

2013 Admitted at **agrégation externe de mathématique**

2007-2008 Postdoctoral position at the Pennsylvania State University (USA).

2003-2007 **Phd in mathematics** (differential geometry) at *Université catholique de Louvain* (Belgium). Title : *Locally anti de Sitter spaces and deformation quantization*[1, 2, 3].

1999-2003 **Graduate in physics** at *Université libre de Bruxelles* Title : *Symétries globales et linéaires en théorie relativiste des champs*[4].

Professional positions

2012-2015 Teaching in undergrad schools (12-18).

2008-2012 Some one-year positions in universities in Belgium (*Université libre de Bruxelles*, *Université Catholique de Louvain*) and France (*Université de Franche-Comté*).

- In charge of the exercices for a wide variety of courses of mathematics for biologists, geographers, physicists, engineers, ...
- An introduction to **Matlab** for students in physics and agronomy : matrixial computation, least square method, differential equations.
- Some research in mathematics [5]

Realisations

My projects are described on my webpage. You will find there more detailed descriptions and links to the documentation: <http://laurent.claessens-donadello.eu/programming.html>

Python

A module that serves to generate the `tikz` (\LaTeX) code for a picture. This module relies on Sage, so that one can produce a `tikz` code for virtually anything Sage can compute. Source code on github.

C++

finitediff An implementation the *PLU* decomposition of a matrix, taking care of good practices : unit tests, documentation, avoid raw pointers, rely on RVO. Source code on github.

Lora A backup software that I use everyday. Source code on github.

Java

An actor system and an implementation that produces, from a \LaTeX file, a new source file having recursively substituted every `\input` by the content of the file. Source code on github.

PHP

As an exercise I'm writing my blog in php. Source code on github.

References

- [1] Laurent Claessens. Locally anti de Sitter spaces and deformation quantization. Ph.D. thesis. 2007.
`arXiv:0912.2215[math.DG]`.
- [2] Pierre Bieliavsky, Yannick Voglaire, Laurent Claessens, and Daniel Sternheimer. Quantized anti de Sitter spaces and non-formal deformation quantizations of symplectic symmetric spaces. *Contemporary Mathematics*, (450), 2008.
`arXiv:0705.4179v1[math.QA]`.
- [3] Laurent Claessens and Stephane Detournay. Solvable symmetric black hole in anti-de Sitter spaces. *J. Geom. Phys.*, 57:991–998, 2007.
`arXiv:math.DG/0510442`.
- [4] Laurent Claessens. Symétries globales et linéaires en théorie relativiste des champs. Master's thesis, Université libre de Bruxelles, May 2003. Direction: Glenn Barnich
<http://laurent.claessens-donadello.eu/pdf/memoire.pdf>.
- [5] Laurent Claessens. BTZ black hole from the structure of $\mathfrak{so}(2, n)$. 2009.
`arXiv:0912.2267v3[math.DG]`.