

Alban Jago

email : alban.jago@berkeley.edu

As a mathematician, my research is focused on the geometry and symmetries of Quantum Physics. Besides this, I have developed a strong interest and some experience in computing and machine learning. I am now looking for opportunities to apply those skills to real-world problems and strengthen them.

Positions

- 2018–present **Postdoctoral Researcher**, *UC Berkeley*, Berkeley, USA.
2018 Fellowship from the Belgian American Educational Foundation
- 2013–2017 **PhD Researcher**, *UCLouvain*, Louvain-la-Neuve, Belgium.
Doctoral scholarship from the FRIA - FNRS (Belgian National Fund for Scientific Research)
- 2012–2013 **Teaching Assistant in Mathematics**, *UCLouvain*, Louvain-la-Neuve, Belgium.
Doctoral contract

Education

- 2012–2017 **PhD in Mathematics**, *UCLouvain*, Belgium.
Thesis: *Traces, Fixed Points and Quantization of Symmetric Spaces*
Supervisor: Pierre Bieliavsky Thesis defense: December 01, 2017
- 2011–2012 **Master 60 in Mathematics**, *Université catholique de Louvain*, Belgium,
Summa cum laude.
Thesis: *A Primer in Geometric Quantization: From Kirillov to Kostant-Souriau Quantization*,
Advisor: Pierre Bieliavsky (grade: 19/20)
- 2009–2011 **Master 120 in Physics**, *Université catholique de Louvain*, Belgium,
Magna cum laude. Orientation: particle physics and cosmology.
Thesis: *Noncommutative Geometry and Supersymmetry in a Generalization of the Bigatti-Susskind System*, Advisor: Jan Govaerts (grade: 19/20)
- 2006–2009 **Bachelor in Physics**, *Université catholique de Louvain*, Belgium,
Magna cum laude.
- Bachelor in Mathematics**, *Université catholique de Louvain*, Belgium,
Magna cum laude.

Additional technical knowledge

Computing-related interests.

Machine learning, algorithmic optimization,
sound & image processing, Unix, Android

Softwares & Frameworks.

Mathematica, MATLAB, Octave, Geogebra,
IPython, Tensorflow, OpenCV, Pandas

Programming skills.

Fluent: C, C++, Python, Bash
Occasional: Java, Microcontroller assembly,
PHP/MySQL, Javascript

Selected projects

Besides my research in mathematics, I have conducted several projects related to subjects ranging from experimental physics to electronics and programming.

- 2014–present **Programming Contests and Games.**
Related to: Data Analysis, Machine Learning, Algorithmic Optimization, ...
Winner or laureate of contests on topcoder.com
Other platforms: codingame.com, kaggle.com, projecteuler.net
- 2010 **2 months Internship at CERN**, *CP3 - NA62 experiment.*
Working on the simulation of the NA62 experiment, with Pr. Cortina.
- Various personal projects on electronics.**
Dealing with microcontrollers (Arduino, PIC), sensors, displays and transmitters

- 2010 **MDRS Crew 94: JUMP Project**, *Mars Society - ESA - CP3*.
Martian mission simulation in Utah desert – responsible for a particle detector.
- 2009 **REXUS-BEXUS Campaign: SO-hIgh Project**, *ESA - UCL*.
Building of a miniaturized weather board sent on board a stratospheric balloon.

Selected outreach and volunteer experiences

I have always been very enthusiastic about sharing scientific knowledge with other scientists and the general public. I love the challenge of explaining abstract or complicated concepts while staying accurate and passionate.

- 2018 **Mentor for “Be A Scientist”**.
Mentoring 7th graders in conducting their first scientific experiment
- 2017 **Participation to “My Thesis in 180 Seconds”**.
- 2014-2016 **Participation to the “Printemps des Sciences”**.
Activities about mathematical subject for students of primary and secondary schools
- 2014-2016 **Various roles as Researcher Representative**.
President or representative of several researcher associations and corps at UCLouvain
- 2009-2011 **Member and president of the Kot Astro**.
Student team promoting astronomy in Louvain-la-Neuve through conferences, exhibitions, sky observations, etc.

Miscellaneous

Languages.

Native: French
Basic: Dutch

Fluent: English

Hobbies.

Hiking, Piano, Astronomy, Photography, Movies, Art museums, ...

Selected contributions in conferences and seminars

- Mar. 2018 **Gone Fishing Conference**, *La Jolla, CA, USA*.
Fixed Points and Quantization of Some Symplectic Symmetric Spaces
- Dec. 2016 **Workshop in Differential Geometry**, *ULB, Belgium*.
A fixed point formula for non formal star products on symmetric spaces
- 2015-2016 **Seminar of Geometry and Operator Algebras**, *UCL, Belgium*.
A fixed-point formula for weak traces of operators
- 2013-2016 **MATH PhD Seminar**, *UCLouvain, Belgium*.
Selection: Have you ever seen... the Fourier transform? | Elliptic curves in cryptography | ...
- Dec. 2015 **Colloquium of Mathematics**, *University of Zurich, Switzerland*.
What is ... the point? - An introduction to noncommutative geometry
- Oct. 2015 **From Poisson Geometry to Quantum Fields and Noncommutative Spaces**, *University of Wurzburg, Germany*.
Poster: A Fixed Point Formula for Invariant Star-Products
- Feb. 2014 **XVII International Workshop on Wavelets, Differential Equations and Random Matrices**, *University of Havana, Cuba*.
Restricting principal series to Iwasawa sub-groups
- July 2010 **38th COSPAR Scientific Assembly**, *ZARM, Germany*.
The JADE project: an angular cosmic ray detector

Selected teaching activities (exercise sessions with graded exams)

- 2016-2017 **Lie theory and Riemannian geometry**, (*1st year graduate math*).
- 2014-2017 **Differential geometry of surfaces**, (*2nd year undergraduate math*).
- 2012-2014 **Functional analysis**, (*3rd year engineers*).