

# Jonathan Passerat-Palmbach

Research Associate at Imperial College London

## Education

- 2010-2013 **PhD in Computer Science**, *Blaise Pascal University*, France.  
Contributions to Parallel Stochastic Simulation: Application of Good Software Engineering Practices to the Distribution of Pseudorandom Streams in Hybrid Monte-Carlo Simulations
- 2007-2010 **MEng in computer science**, *Blaise Pascal University*, France.  
Major in Software Engineering and Embedded Systems

## Experience

- 2016- **Distributed brain parcellation algorithm**, *Imperial College London*, BioMedIA lab, (in progress).
  - ETL pipeline from Matlab HDF5 to **Apache Parquet**
  - Core implementation using **Apache Spark** in Scala (*MLLib* and *SparkSQL*)
  - **€6,000 Amazon AWS in education** grant funding the experiment
- 2014- **Platform architect**, *Imperial College London*, BioMedIA lab.
  - Storage servers: **ZFS**, RAIDZ3, 300TB usable space
  - Computing: **32 node** cluster, batch processing (**Slurm** scheduler)
  - Software: Data extraction and transformation application in **Scala** (main libraries: *scalaxb*, *json4s*)
- 2014- **Conference organiser**, Co-organisation of international scientific workshops.  
Invite guest speakers, obtain funding through sponsorships, coordinate peer review and publication.
- 2012- **Open source contributor**, *OpenMOLE*, <https://github.com/openmole>.
  - Support **batch environments**, **job management** (*Slurm*, *HTCondor*)
  - Reproducible executions through **CARE / PRoot** (think Docker but without administrator privileges)
  - Documentation maintainer

## Skills

- Programming **Scala**, *C++*, *Java*, *Python*, *Bash*
- Tools **Git**, **SBT**, **Docker**, CMake, Valgrind, GDB, Puppet, Salt
- OS GNU Linux (Debian/Ubuntu)
- Schedulers EMI, PBS/Torque, **Slurm**
- Filesystems **Ceph**, **GlusterFS**
- Teaching Designed and **taught various CS courses** to undergrad students in French and English
- Supervision **10+** student projects/internships **supervised** over the last 5 years

## Selected Talks

- 2016 GridScale: a Journey from Object-Oriented to (More) Functional Programming (*Scala eXchange 2016*)

## Languages

- French (Mother tongue)
- English (Fluent)

## Interests and hobbies

- Karate (23 years)
  - Distinguished athlete (national and international medallist)
  - Black Belt (4<sup>th</sup> dan)
  - Professional instructor degree