

# 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 **MSc in computer science**, *Blaise Pascal University*, France.  
Major in Software Engineering and Embedded Systems

## Experience

- 2018- **Off-chain computing**, *Imperial College London*, BioMedIA lab, <https://bit.ly/2tuvza2>.
  - Study off-chain computing platforms iEx.ec and Golem
  - **\$20,000 iEx.ec DApp challenge winner** <https://bit.ly/2MLiv90>
  - Software: Creation of new module in GridScale library (<https://github.com/openmole/gridscale/pull/17>) and Scala SDK (<https://github.com/jopasserat/iexec-scala-sdk>)
- 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
- 2012- **Model exploration platform**, *OpenMOLE*, <https://next.openmole.org/>.
  - Study hyper parameter tuning for machine learning models
  - Add support for **batch environments, job management** (*Slurm*, *HTCondor*, ...)
  - Design reproducible executions through **CARE / PRoot** (think Docker but without administrator privileges)

## Skills

- Programming **Scala**, *C++*, *Java*, *Python*, *Bash*, **Git**, **SBT**, **Docker**
- Web3.0 **IPFS**, *Solidity* (intermediate), *geth*, **Web3J**, *iEx.ec*
- Teaching Designed and **taught various CS courses** to undergrad/postgrad students in French and English
- Supervision **20+** student projects/internships and **4 engineers supervised** over the last 5 years
- Conference Co-**organisation of international scientific workshops**: Invite guest speakers, obtain funding through sponsorships, coordinate peer review and publication.

## Selected Talks

- 2017 Building an ecosystem of functional libraries for the OpenMOLE scientific platform: from batch jobs to automatic model parameter tuning (*ScalaX bytes, London, UK*)
- 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)
  - English **national kata A squad**
  - Black Belt (4<sup>th</sup> dan)
  - Professional instructor degree