

Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

Email(s)

Nationality(-ies)

Age

Last Update

Web page

PASSERAT-PALMBACH Jonathan

Imperial College London - Department of Computing,
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French

29 years old

26/01/2017

<https://jopasser.at>

Current Position

Since December 2013

Research Topics

Research Associate at Imperial College, London, United Kingdom

Distributed computing

Scientific workflows

Neuroinformatics

Education

2010-2013

Title

PhD in Computer Science

Contributions to Parallel Stochastic Simulation: Application of Good Software Engineering Practices to the Distribution of Pseudorandom Streams in Hybrid Monte-Carlo Simulations

Defended on October, 11th 2013

College

Engineering Doctoral School, Blaise Pascal University, Clermont-Ferrand, France

Research laboratory

CNRS - UMR 6158 LIMOS

Advisor

Prof. David R.C. Hill

2007-2010

Computer Science Engineering Degree at ISIMA (Institut Supérieur d'Informatique, de Modélisation et de leurs Applications) College

With Honours

University

Blaise Pascal University, Clermont-Ferrand, France

Awards

Best Paper Award

European Simulation and Modeling (ESM) Conference 2011, Guimares, Portugal

Best Scientific Contribution

Yearly Seminar of the Engineering Doctoral School, Blaise Pascal University, Clermont-Ferrand, France

Conference organisation

2016-

BACON: Workshop on Brain Analysis using COnnectivity Networks, satellite event of **MICCAI**

2016

Big Data in Medical Imaging, special session of **ISBI**

2015

Symposium on Big Data Initiatives for Connectomics Research, satellite event of the International conference on **Brain Informatics and Health**

Teaching and Scientific Seminars

Teaching

2016

Functional programming in Haskell

10h 2016 10h	1 st YEAR COMPUTING UNDERGRADUATE, IMPERIAL COLLEGE LONDON Introduction to Java 1 st YEAR COMPUTING UNDERGRADUATE, IMPERIAL COLLEGE LONDON
2010-2013 10h	EGI Computing Grid labs 3 rd YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)
2010-2013 4h	High Performance Computing course MRES IN COMPUTER SCIENCE, BLAISE PASCAL UNIVERSITY
2012-2013 16h	GPU Computing course 3 rd YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)
2010-2013 16h + 16h	C++ labs 2 nd & 3 rd YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)
2010-2011 22h	Java course 2 nd YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)
2010-2011 16h	Software Engineering 1 st YEAR BSC IN COMPUTER SCIENCE, BLAISE PASCAL UNIVERSITY
2010-13 8h	UML tutorials 2 nd YEAR ISIMA (COMPUTER SCIENCE ENGINEERING SCHOOL)
Recent Supervision	
2016	Executing software containers in HPC environments: application to Docker containers in the OpenMOLE workflow engine , Vincent Hage (5 th year student in Computer Science, Imperial College London, UK / École des Mines de St-Étienne, France)
2016	Interfacing dynamic image processing plugins with a workflow management system , Maxime Noël (4 th year student in Engineering, INSA Centre Val-de-Loire, France)
2016	Cloud computing for big data experiments , Adrian Draghici (4 th year student in Computer Science, Imperial College London, UK)
2016	Standard description of big data neuroimaging experiments , Claudia Mihai (3 rd year student in Computer Science, Imperial College London, UK)
2015	Machine Learning for Load Balancing of workflows in heterogeneous distributed computing environments , Hoel Kervadec (4 th year student in Computer Science, INSA Rennes, France)
Scientific Tutorials	
2015	Model Exploration Using OpenMOLE - a workflow engine for large scale distributed design of experiments and parameter tuning , Tutorial at the IEEE High Performance Computing and Simulation Conference, Amsterdam, the Netherlands
2012	How to Correctly Deal With Pseudorandom Numbers in Manycore Environments - Application to GPU programming with Shoverand , Tutorial at the IEEE High Performance Computing and Simulation Conference, Madrid, Spain
Scientific Talks	
2016	GridScale: a Journey from Object-Oriented to (More) Functional Programming , Scala eXchange, London, UK
2013	How to Correctly Handle Pseudorandom Numbers on GPU Using Shoverand , NVIDIA's GPU Technology Conference, San Jose, California, USA

Skills

Languages

English (fluent), French (mother tongue)

Computer Science

Programming Languages

C, C++, Java, CUDA, Scala, Bash Shell Scripts

Software Engineering Tools

Git, CMake, Maven, Valgrind, GDB, Puppet, Salt, SBT

Operating System

GNU Linux (Debian/Ubuntu)

Job Schedulers

EMI, PBS/Torque, Slurm

Distributed Filesystems

Ceph, GlusterFS

Sport

Karate

Distinguished athlete (national and international medallist)

Black Belt (4th dan)

Professional instructor degree

Peer-reviewed journal papers

- [1] Sarah Parisot, Salim Arslan, Jonathan Passerat-Palmbach, William M. Wells III, and Daniel Rueckert.
Group-wise parcellation of the cortex through multi-scale spectral clustering.
NeuroImage, 136:68 – 83, 2016.
- [2] Jonathan Passerat-Palmbach, Jonathan Caux, Pierre Schweitzer, Pridi Siregar, Claude Mazel, and David R. C. Hill.
Harnessing aspect oriented programming on GPU: application to warp-level parallelism (WLP).
The International Journal of Computer Aided Engineering and Technology, 7:158–175, 2015.
- [3] Jonathan Passerat-Palmbach, Claude Mazel, and David R. C. Hill.
TaskLocalRandom: a statistically sound substitute to pseudorandom number generation in parallel java tasks frameworks.
Concurrency and Computation: Practice and Experience, 2014.
doi:/10.1002/cpe.3214.

Journal papers currently under review

- [4] Jonathan Passerat-Palmbach, Romain Reuillon, Mathieu Leclaire, Antonios Makropoulos, Emma Claire Robinson, Sarah Parisot, and Daniel Rueckert.
Reproducible large-scale neuroimaging studies with the openmole workflow management system.
2016.

Book chapters

- [5] Jonathan Passerat-Palmbach and David R. C. Hill.
OpenCL: a suitable solution to simplify and unify high performance computing developments.
In *Patterns for Parallel Programming on GPUs*, pages 189–209. Saxe-Coburg Publications, Stirlingshire, Scotland, frederic magoules edition, 2013.
to be published in GPU Design Patterns (ISSN 1759-3158).

Peer-reviewed Proceedings of International Conferences

- [6] Lisa M Koch, Martin Rajchl, Tong Tong, Jonathan Passerat-Palmbach, Paul Aljabar, and Daniel Rueckert.
Multi-atlas segmentation as a graph labelling problem: Application to partially annotated atlas data.
In *International Conference on Information Processing in Medical Imaging*, pages 221–232. Springer, 2015.
- [7] Sarah Parisot, Salim Arslan, Jonathan Passerat-Palmbach, William M Wells III, and Daniel Rueckert.
Tractography-driven groupwise multi-scale parcellation of the cortex.
In *International Conference on Information Processing in Medical Imaging*, pages 600–612. Springer, 2015.
- [8] Sarah Parisot, Martin Rajchl, Jonathan Passerat-Palmbach, and Daniel Rueckert.
A continuous flow-maximisation approach to connectivity-driven cortical parcellation.
In *International Conference on Medical Image Computing and Computer-Assisted Intervention*, pages 165–172. Springer, 2015.
- [9] Romain Reuillon, Mathieu Leclaire, and Jonathan Passerat-Palmbach.
Model exploration using openmole - a workflow engine for large scale distributed design of experiments and parameter tuning.
In *Proceedings of the IEEE High Performance Computing and Simulation conference*, pages 1–8, 2015.
- [10] Jonathan Passerat-Palmbach, Mathieu Leclaire, Romain Reuillon, Zehan Wang, and Daniel Rueckert.
OpenMOLE: a Workflow Engine for Distributed Medical Image Analysis.
In *International Workshop on High Performance Computing for Biomedical Image Analysis (part of MICCAI 2014)*, Boston, United States, September 2014.
- [11] Jonathan Passerat-Palmbach, Claude Mazel, and David R. C. Hill.
ThreadLocalMRG32k3a: a statistically sound substitute to pseudorandom number generation in parallel java applications.
In *Proceedings of the IEEE High Performance Computing and Simulation conference*, pages 543–550, 2012.
(nominated for the outstanding paper award).
- [12] Jonathan Passerat-Palmbach, Jonathan Caux, Pridi Siregar, and David R. C. Hill.
Warp-level parallelism: Enabling multiple replications in parallel on GPU.
In *Proceedings of the European Simulation and Modeling Conference 2011*, pages 76–83, 2011.
ISBN: 978-90-77381-66-3 **(best paper award).**