



SUMMER SCHOOLS 2018

NUMERICAL ANALYSIS

June 25 to June 29, 2018

**FLOATING-POINT ARITHMETIC
AND PERFORMANCE OF
SIMULATION CODES**

VERIFICATION OF THE NUMERICAL
QUALITY OF SIMULATION CODES :
Numerical verification in an industrial context
Monte-Carlo arithmetic
Diagnostics and debugging tools

REPRODUCIBLE AND EFFICIENT
NUMERICAL ALGORITHMS :
Fundamentals of computer arithmetics
Compensated algorithms
Efficient implementation

Bruno LATHUILIERE
(EDF R&D)
&
Stef GRAILLAT
(Sorbonne Université)

COMPUTER SCIENCE

July 2 to July 6, 2018

**AN INTRODUCTION TO MACHINE
LEARNING AND HIGH
PERFORMANCE WITH JULIA**

INTRODUCTION TO JULIA :
What makes Julia special
The two Language Problem :
Julia is easy to use
Julia is fast
Generic Programming
Multiple Dispatch
Macros and DSLs

MACHINE LEARNING
Deep Neural Nets
Build Your Own Handwriting Recognizer
Automatic Differentiation / Back Propagation
The Whole Alphabet Soup:
RNN, CNN, LSTM

HIGH PERFORMANCE COMPUTING
Performance Benchmarking
Faster Serial Computing
Distributed Computing
GPU Computing
Multithreading

Alan EDELMAN
(MIT & Julia Computing Inc.)

Jane HERRIMAN
(Caltech & Julia Computing Inc.)

Andreas NOACK
(Julia Computing Inc.)

– Hands on session –

– Seminars: various conferences by international specialists –

Coordinator of the Numerical Analysis Summer School

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Registration Deadline: May 25, 2018

Summer schools are intended for researchers, engineers and PhD students.

They allow them to review the state of progress of the proposed subjects and to confront their experience.
The teaching is done in English. It is complemented by practical works, in small groups, hosted by assistants.

Summer Schools will take place at Sorbonne Université - Campus Jussieu - Paris 75005 - FRANCE

Cost of the registration:

Computer Science school (5 days) / Numerical Analysis school (5 days) :

Full rate: € 1200 (pre-tax price) - Universities and public research institutes: € 600 (pre-tax price) - PhD students: € 300 (pre-tax price)