

A day with (the) Julia (language)

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Julia language is designed for scientific computing. It allows easy writing code, and running it at almost C speed. Julia takes the best of other languages used in science, allowing the interaction with them in order not to reinvent the wheel. In this workshop you will know the power of this new programming language, and you'll love it! Previous knowledge: some programming skills are expected.

- Why should you try Julia?
 - It's easy to write efficient code; Get almost C speed in seconds.
 - Create your own types without performance cost.
 - JIT compiler and multiple dispatch
- Stop missing MATLAB
 - Mathematical operations and linear algebra
 - Arrays; vectors, matrices, sparse matrices, *BitArrays*, etc.
- Stop missing Perl
 - File IO
 - Regular expressions
- Stop missing R
 - *JuliaStats*: Statistics and Machine Learning made easy in Julia
 - Tabular datasets and missing values in Julia: *DataFrames.jl*
 - Statistical plots with *Gadfly.jl*
- Stop missing Python
 - Using Python functions and packages with *PyCall.jl*
 - Using *BioPython* from Julia
- Why coding Julia?
 - Macros and metaprogramming
 - Running external programs from Julia
 - Parallel execution