# Scientific Computing With Rust

Srinath Kailasa

Department of Mathematics
University College London

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# Team and Research Focus

Research Focus:

1. Numerical Analysis & Scientific Computing
2. PDEs: Acoustics, Electromagnetics, Electrostatics
3. High-Performance Computing and Software Engineering

Prof. Timo Betcke
@BetckeTimo

Srinath Kailasa
@SrinathKailasa

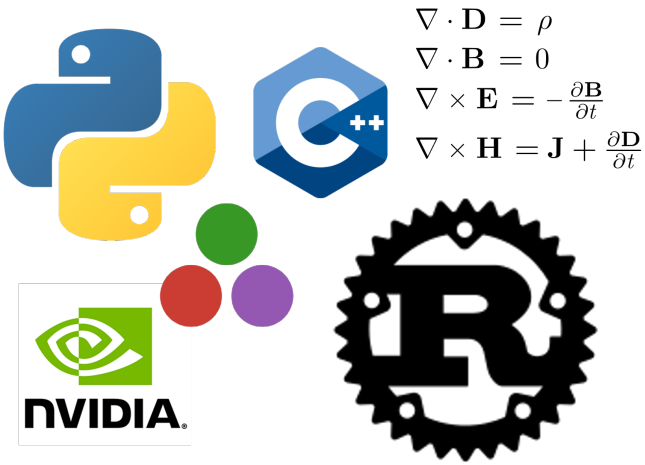
Ignacia Fierro-Piccardo
@ignaciafpicc

https://github.com/betckegroup

# My Research

'Science with Computers and Maths'

1. High Performance Computing
2. Heterogenous Computing
3. Software Engineering
4. Problems in Physics and Engineering



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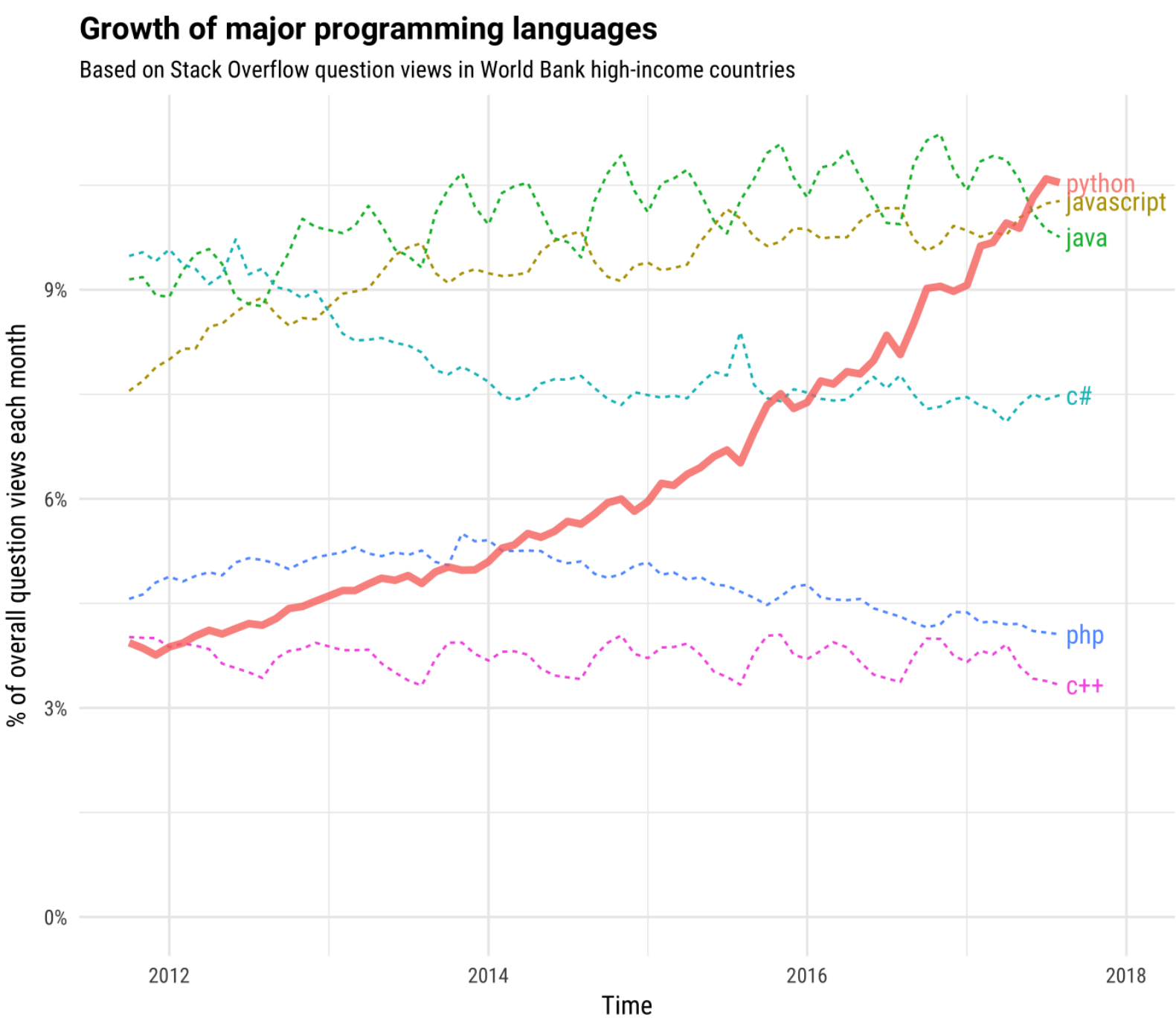
# Expressing Scientific Problems With Software

There is no ‘best’ language for expressing scientific problems with software.

Though Python has emerged as a defacto standard amongst scientists and engineers for a broad spectrum of problems.




https://stackoverflow.blog/2017/09/06/incredible-growth-python/

# The Two Language Problem

1. Languages suited for human needs, are less efficient for computers to run.
2. Languages easy for computers to run efficiently, are correspondingly less easy for humans to use!

# Why Rust?

Don't a lot of the 'two language' problems still exist?

# Cons of Rust

# State of Scientific Computing in Rust

Recent formation of the Rust working group within UCL's Advanced Research Computing department, to commit developer hours to open source Rust infrastructure.

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# A Splash of PDEs

# FEM

# BEM

# Problems with BEM

# FMM

# Fast Direct Solvers

# Rusty Fast Solvers Project

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