IMPRS UFAST Focus Course

Advanced Python for Computational Science

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## Hands-on exercise : Martin Lang and others

Abstract:

Building on "Introduction to Python for Computational Science", this course covers additional aspects: (i) advanced Python, (ii) additional libraries such as numpy, scipy, pandas, sympy, (iii) research software engineering and testing, and (iv) application examples with focus on physics and engineering problems.

Parts (i) to (iii) are covered in the beginning of the course. Part (iv) is delivered at the end of the week, and can be omitted if not relevant to the participant.

Topics include:

- Higher order functions
- programming paradigms
- scipy, pandas, sympy
- Research software engineering practices, in particular testing
- Python installations
- interpolation, root finding, curvefitting
- Optimisation, computing derivatives
- Integration of ordinary differential equations
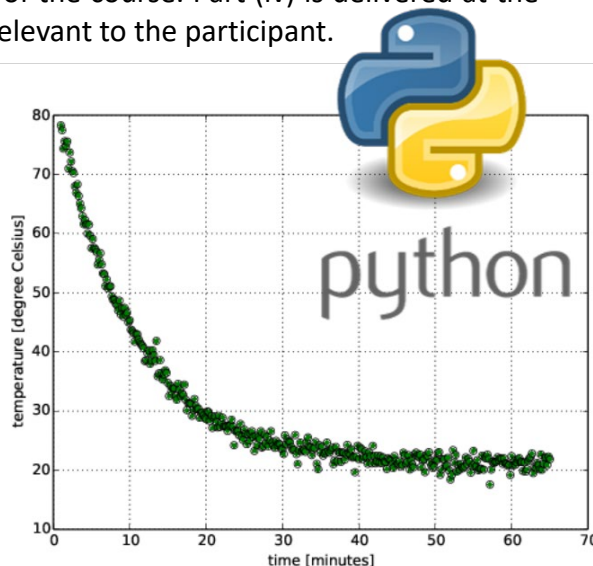
Online Course
17th – 21st February 2025
10:00 h -17:00 h

Register on Geventis I-UF FC1-2
Register on Indico
Registration deadline
 10th February 2025