Level Up Your Coding: Digital Research Skills and Tools for Scientists

**Objective**

This course will teach you the practical skills you need to program more efficiently, improve code readability and reduce bugs. These digital research skills are becoming increasingly important as datasets get larger and custom written analysis tools become more and more widely used. Most scientists get little formal training in how to program and those that do attend courses designed for people working as software developers in industry, who have very different needs for code performance. Here you will learn about some of the most important tools and best practices used by developers that are useful for scientific coding.

**Description**

*You will learn about:*

Best practices for writing readable and bug free code, tools created by software developers that increase your coding efficiency

*The topics that will be covered are:*

Coding style, bad coding practices, code modularization, project planning, documentation, error checking.

*Tools that will be covered are:*

Git, github, debuggers and profilers.

You are encouraged to attend this workshop as early as possible, as the earlier you include these practices in your work routine the better. This workshop is aimed at scientists writing code to analyse their data, although many aspects are more widely applicable. After the workshop you should be able to write better, code faster and with fewer errors.

**Methodology**

- Lectures
- Practical exercises performed using pair programming
- Group discussions

**Conditions**

- Basic programming skills (i.e. you have written some code)
- Laptops must be brought with git (https://git-scm.com/) installed

**Organizational Information**

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<thead>
<tr>
<th>Language</th>
<th>English</th>
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<tbody>
<tr>
<td>Target group</td>
<td>Doctoral Candidates at all stages and Postdocs from all faculties</td>
</tr>
<tr>
<td>Date</td>
<td>Wednesday, 20 May 2020, 9:00 – 17:00</td>
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<td>Registration</td>
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