

# Introduction to “The Computational Biosciences Days”

Doctoral School for Health Sciences



# Who am I?

- ▶ Master in Electrical Engineering and Ph.D. in Engineering
- ▶ Now FRS-FNRS Research Director & Prof. at School of Engineering
- ▶ Research and interest in “neuroimaging methods”
  - data processing of brain images (MRI and PET) and electro-physiological data (M/EEG)
- ▶ Linked to:
  - GIGA CRC human imaging (research units) & GIGA in vivo imaging (platform)
  - Department of Electrical Engineering & Computer Science
- ▶ Contact: [c.phillips@uliege.be](mailto:c.phillips@uliege.be)



# Who are you ?

- ▶ Background
- ▶ Programming experience?

# Course program



- ▶ Check <https://indico.giga.uliege.be/event/570/> for the program and slides

THURSDAY, 13 FEBRUARY			
09:00 → 10:00	<b>Welcome + Introduction to computer science : historical perspective, computer structure, operating systems &amp; languages</b> Convener: Prof. Christophe Phillips (GIGA CRC human Imaging)	📍 B-30/0-000 - Big meeting r...	
10:00 → 11:00	<b>Data representation &amp; storage: bits/bytes, data format, signal discretization, compression,...</b> Convener: Mohamed Bahri	📍 B-30/0-000 - Big meeting roo...	
11:00 → 12:00	<b>Working with High Performance Computing Clusters &amp; parallel processing.</b> Conveners: Alice Mayer, Martin Grignard	📍 B-30/0-000 - Big meeting roo...	
12:00 → 13:00	<b>Lunch break</b>		🕒 1h
13:00 → 16:00	<b>Bash Basics (theory and practice): 1/4</b> Convener: Grégory Ehx	📍 B-30/0-000 - Big meeting roo...	



## THURSDAY, 20 FEBRUARY



09:00

→ 10:00

**Introduction to algorithmic thinking: Different types of algorithms, computer logic**

Convener: Mohamed Bahri

📍 B34/+5-42 - Grande Ghuyesen (...)



10:00

→ 11:00

**Good practices in scientific computing: Code modularity, validation, optimization, documentation**

Convener: Prof. Christophe Phillips (GIGA CRC human imaging)

📍 B34/+5-42 - Grande Ghuyesen (...)



11:00

→ 12:00

**ULiège IT resources by the SeGI/UDI's**

Convener: Yves Wesche

📍 B34/+5-42 - Grande Ghuyesen (...)



12:00

→ 13:00

**Lunch break**

🕒 1h

13:00

→ 16:00

**Bash Basics (theory and practice): 2/4**

Convener: Grégory Ehx

📍 B34/+5-42 - Grande Ghuyesen (...)





## THURSDAY, 27 FEBRUARY



09:00

→ 10:00

### Introduction to AI

Convener: Prof. Christophe Phillips (GIGA CRC human Imaging)

📍 B34/+5-42 - Grande Ghuyesen (...)



10:00

→ 11:00

### AI demo and Imaging data processing

Convener: Alexandre Hego

📍 B34/+5-42 - Grande Ghuyesen (...)



11:00

→ 12:00

### Introduction to NGS data processing

Conveners: Alice Mayer, Arnaud Lavergne

📍 B34/+5-42 - Grande Ghuyesen (...)



12:00

→ 13:00

Lunch break

🕒 1h

13:00

→ 16:00

### Bash Basics (theory and practice): 3/4

Convener: Grégory Ehx

📍 B34/+5-42 - Grande Ghuyesen (...)





## THURSDAY, 6 MARCH



09:00

→ 10:00

### Code versioning & Git, an Introduction

Convener: Prof. Christophe Phillips (GIGA CRC human Imaging)

📍 B-30/0-000 - Big meeting roo...



10:00

→ 12:00

### GitHub/Gitlab account hands-on check and explanations

Conveners: Grégory Hammad, Martin Grignard

📍 B-30/0-000 - Big meeting roo...



12:00

→ 13:00

Lunch break



13:00

→ 16:00

### Bash Basics (theory and practice): 4/4

Convener: Grégory Ehx

📍 B-30/0-000 - Big meeting roo...



16:00

→ 17:00

### Closing comments

Convener: Prof. Christophe Phillips (GIGA CRC human Imaging)

📍 B-30/0-000 - Big meeting roo...





Let's go!



