

Blended Intensive Programme (BIP) at UNICAEN

Artificial Intelligence for Science 26/30 AUGUST 2024 / CAEN Normandy (arrival Sunday 25/08-departure Saturday 31/08)

What is it?

This BIP is an Intensive Mobility Programme gathering a group of academics and students (from at least 3 EU countries) to work in an intercultural environment on Artificial Intelligence for Science.

Main topics covered during the BIP?

AI for science: scientific discoveries based on Artificial Intelligence

Sciences: Health / Chemistry / Biology/ Genetics (AlphaFold)/ Geology/ Mechanical Simulation

Models: Generatives models

Challenges: LPC data/ Particles classification

Validation? The participation will be validated with 3 ECTS

EU University partners? This BIP will be promoted to all the 9 AcrossEU universities as well as to other European partners. It is necessary to have at least 3 official partners.

What is the AcrossEU alliance?

It is a network of 9 universities, from 8 EU countries that collaborate in many ways: mobilities for all - students/academics/administrative staffs, research projects, doctoral studies, interaction with their regional environments, entrepreneurship projects, social and cultural activities. www.acrosseu.org

Who can participate?

DOCTORAL STUDENTS

15-minimum to 25 students from other EU partners

5/10 minimum from UNICAEN or other FR universities

- Enrolled as a Doctoral student at one of the partner universities (from various disciplines)
- Good level of English
- Excited to connect with international students

ACADEMICS

It would be interesting to have 3 or 4 academics from the AcrossEU partner universities

Why participate?

Learn about Artificial Intelligence for Science with other students with diverse cultural backgrounds

Be part of the first students creating an AcrossEU identity and community

Be part of a more inclusive and open community sharing European values and beliefs

Develop your multidisciplinary thinking and skills

Enhance your presentation and communication skills

Build your professional international network

What is it about?

Artificial intelligence (AI) has long been associated with computer science and engineering. However, we are entering a new era where AI can be used as a powerful tool to make scientific discoveries in other disciplines. The use of AI is expanding, and scientists in fields as diverse as physics, chemistry, biology, human and social sciences, history, geography, economics, law, and management are now exploring how AI can help them make new discoveries and advance their research.

To give just a few examples, in physics, AI has been used to study complex systems, such as the behavior of subatomic particles or to design new materials with unique properties. In chemistry, AI has been used to accelerate the discovery of new drugs, predict chemical reactions or develop new catalysts. In applied mathematics, AI can drastically accelerate simulation and numerical modeling tools. In biology, AI is helping researchers to understand complex

biological systems, identify new drug targets or develop personalized medicine. It is impossible to mention here all the scientific fields affected by this revolution, since they are so many and varied.

This BIP aims to bring together PhD candidates from different disciplines to explore the potential of AI to make new discoveries and advance scientific research. By combining expertise from different fields, we aim to create new opportunities for interdisciplinary discussions and to have a significant impact on the scientific vision of the various communities working on this topic.

The programme includes both a series of lectures and training sessions on the fundamentals of deep learning and its applications to various disciplinary areas. It will also include laboratory sessions on machines, where different problems will be tackled, such as PINNS (physics-informed neural networks). Finally, there will be an offline part in the form of a team challenge. The goal of this challenge will be to solve a specific scientific problem using deep learning techniques.

Virtual work before the BIP

DATE: To be communicated soon. Presentation from the doctoral students on their own research topic
Training session of the students on the tools to be used

Virtual work after the BIP

DATE: To be communicated soon. Team "Challenge"

Accommodation in Caen

Participants will have to book their accommodation

Some rooms with 2 single beds=90€ /Breakfast =12,5€ / have been pre-booked at

The People Caen/15 Av. Victor Hugo, 14000 Caen/ 02 61 53 69 40 / groupe@bhcreation.net

Please mention UNICAEN reservation if you chose this possibility.

Links to Hotels in Caen

<https://www.unicaen.fr/se-rendre-et-sejourner-a-caen/>

Registration

We kindly ask you to fill out this REGISTRATION form to attend this BIP:

<https://unicaen.moveonfr.com/form/651fcf4cabd14bc918074bce/eng>

Registration deadline= 10 JUNE 2024

Successful candidates will be notified by 20 JUNE 2024

Please contact your university's international office responsible for staff and student mobility to apply for an Erasmus+ Blended mobility grant. This grant will cover your travel and accommodation expenses.

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INFOS on Normandy

<https://www.youtube.com/watch?v=skGsyKQYyHw>

<https://www.calameo.com/read/0020594281ee424812210>