



# 108th IUVSTA Workshop on “Machine learning in Nanoscience”

22 – 24 July 2025

University of Mons, Mons, Belgium, EU



Prof. Carla Bittencourt, University of Mons, Belgium  
Prof. Bridget Murphy, Kiel University, Kiel, Germany  
Prof. Cormac McGuinness, Trinity College Dublin, Dublin, Ireland  
Dr. Rainer T. Lechner, Technical University of Leoben, Austria  
Dr. Uwe Sassenberg Science as a Service GmbH, Germany



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# Workshop on Machine Learning in Nanoscience

22 – 24 July 2023

**Purpose:** To bring together a diverse group of researchers focused on nanoscience, nanotechnology, and machine learning, the program will feature a mix of invited lectures, roundtable discussions, and poster sessions to facilitate knowledge sharing and collaboration.

## PRINCIPAL THEMES/TOPICS:

- Machine Learning Applications in Photon Science
- Artificial Intelligence in Nanotechnology
- Data-Driven Approaches
- Collaborative Innovations
- Thematic Sessions on Materials, Characterization, and Theory
- Standards for Spectroscopy data for Machine Learning purposes
- FAIR data for industry
- FAIR principles for AI models



Support:

**IUVSTA – THE INTERNATIONAL UNION FOR VACUUM SCIENCE, TECHNIQUE AND APPLICATIONS**

**FNRS – National Fund for Scientific Research - FNRS (Wallonia-Brussels Federation)**

**UMONS – University of Mons**

WBI - Wallonie-Bruxelles International est l'organisme chargé des relations internationales Wallonie-Bruxelles



**VENUE :** University of Mons, Mons, Belgium, EU

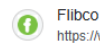
Easy access

## Travel - by plane, train or car

- Flights from everywhere in Europe (two main airports well connect to Mons)
- There are direct trains to Mons from the Brussels airport and buses from Charleroi (Brussels-Sud) airport (easy booking and combination with flight)

**Mons = Bergen**

- The hotels are close to the train station (about 300 – 500 meters)



<https://www.flibco.com> › shuttle › Translate this page ›

### Navette Bus Mons - Aéroport Charleroi

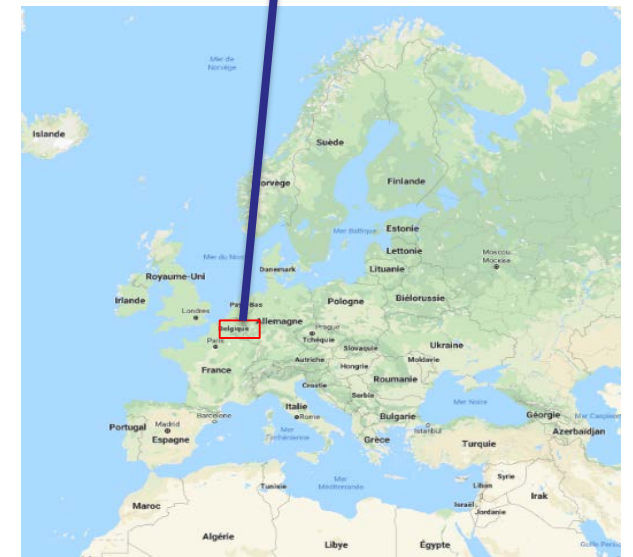
Pour vos déplacements entre Mons et l'aéroport de Charleroi, flibco.com propose le service de navette bus le plus rapide et le plus confortable, ...



[belgiantrain.be](https://www.belgiantrain.be)  
<https://www.belgiantrain.be> ›

### Train Bruxelles Midi-Mons | Achetez votre ticket en ligne

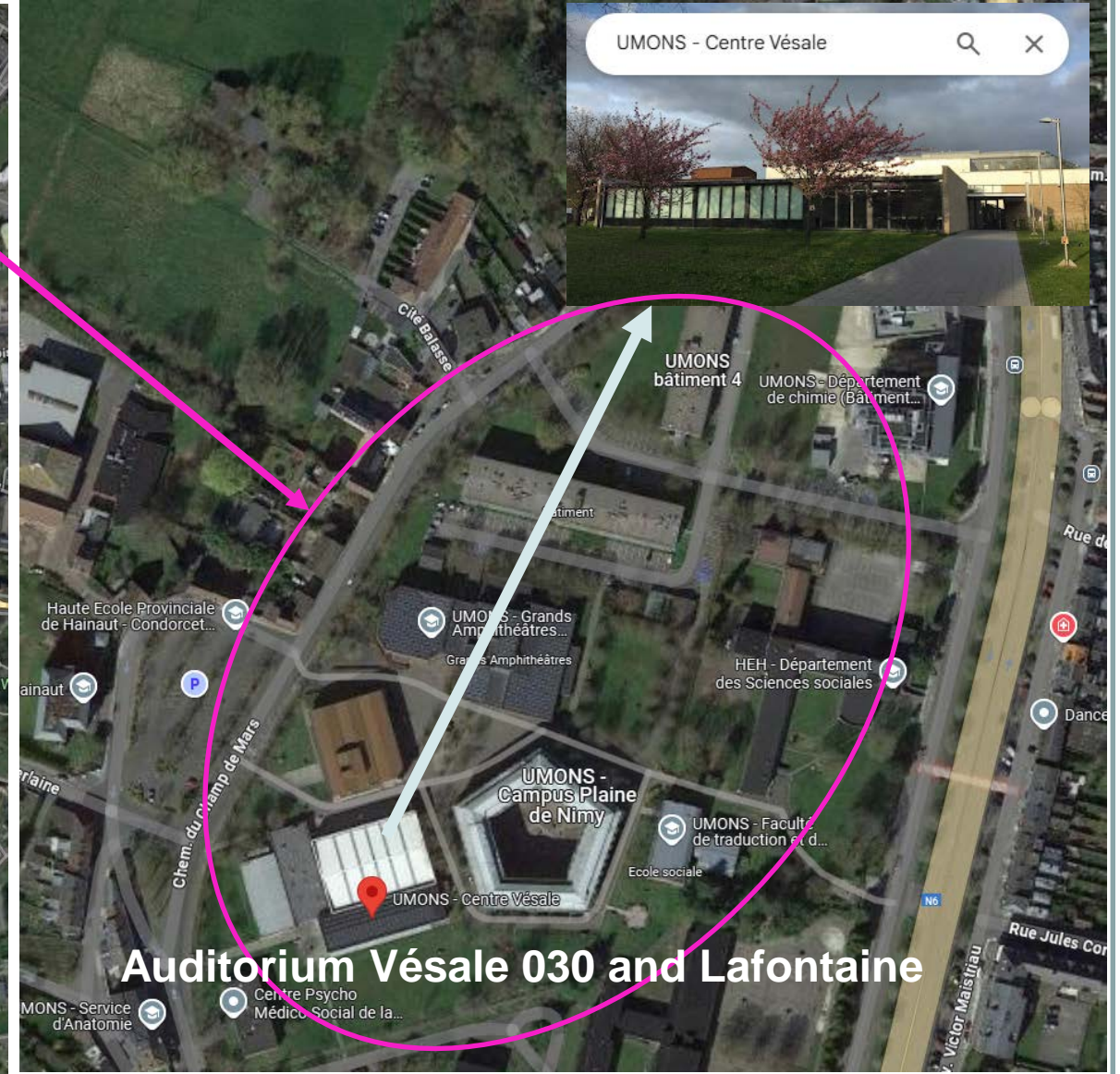
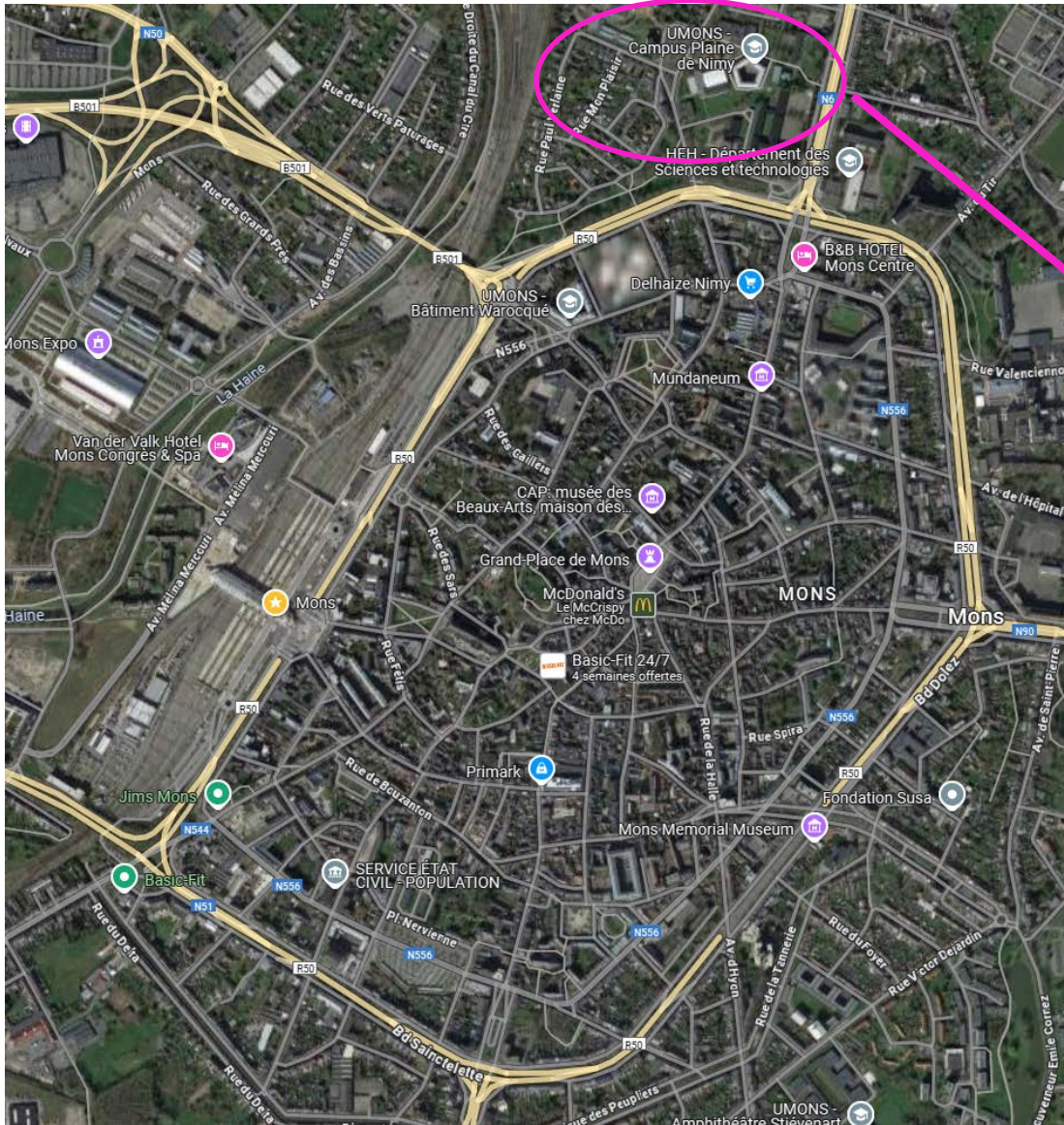
Reliez **Bruxelles** Midi et **Mons** en **train** rapidement et en toute simplicité avec la SNCB





## Location

UMONS, Centre Vésale, Avenue du Champs de Mars 7000 Mons Belgium





## Workshop structure:

### Day 1: Tuesday

12:00 - 14:00 Lunch/Inscription et accueil

14:00 – 14:30 Opening [UMONS, ....]

14:30 - 15:15: Keynote Lecture 1 **Stefan Kowarik** [ Machine Learning approaches in X-ray Surface Science]

15:15 - 15:00: Invited Talk 1 **Julia Kobus** [Automating data reduction and fitting in reflectivity]

16:00 - 16:20: Pause café + posters

16:20 - 17:05: Keynote Lecture 2 (online) **Thomas Penfold** [Machine Learning for spectroscopy analysis]

17:05 - 17:50: Invited Talk 3 **Leonard Chavas, Dectris** [Commercial solutions for big data]

17:50 – 18:40: Round table: **Bridget Murphy and Stephan Kowarik** [Datasets for AI]

### Day 2: Wednesday

09:15 - 10:00: Keynote Lecture 3 **Bernd Hinrichsen (TBC)** [Synchrotron X-ray powder diffraction and scattering measurements service]

10:00 - 10:45: Round table: **Bridget Murphy and Bernd Hinrichsen (TBC)** [Challenges in Data Management]

10:45 – 11:00: Coffee break

11:00 - 12:00: Round table: **Marc Thiry (TBC) and Cormac Mc Guinness** [Transnational access to large facilities/ Status of Access to large-scale facilities - for industry - for user - (TNA via NEPHEWS RIANA, REMADE4ARI and beyond)]

12:00 – 13:00: Lunch + posters

13:00 - 13:45: Invited Talk 4: **Claudia Draxl (TBC)** [Assessing Quality of Machine-Learning Models and Underlying Data]

13:45 – 15:30: Round table: **Derek Logan, Leonard Chavas and Vanko Gyorgy (TBC)**. [Focus on Industrial users]

15:30 – 16:00: Invited Talk 5: **Rainer Lecher** [Pilot project for AI in User Offices]

16:00 - 16:30: Coffee break + posters

16:30 - 17:10: Invited Talk 6: **Cormac Mc Guinness**. [INFRA-DEV-05 Area 02 - Access and funding portals in future FP10 /Horizon-Europe - evolving strategy]

17:10 - 19:00: Round table: **Thomas Hase and Ana Silva**. [Focus on Scientific users]

### Day 3: Thursday

09:00 - 9:45: Keynote Lecture 3: **Uwe Sassenberg** [Unlocking Innovation: The Unique Role of Specialized Service Companies]

9:45 - 10:15: Invited Talk 7: **Andy Gotz (TBC)** [Open data in Europe]

10:15 - 11:00: Round table: **Andy Gotz (TBC) and Bridget Murphy** [Benefits and challenges of open science for industry]

11:00 – 11:15: Coffee break

11:15 - 12:30: Round table: **Carla Bittencourt and Uwe Sassenberg** [Collaboration between ESUO and industry]

12:30 – 13:40: Closing/Lunch

## Other Practical Information :

<https://www.navette-devos.be> (75 euros Charleroi - Mons, 85 euros Brussels airport – Mons)

<https://www.flibco.com/en>

<https://www.belgiantrain.be/>