



# 2025 IIHE Annual Meeting

B. Clerboux & M. Tytgat



VUB U-Residence  
November 10, 2025



# Mission

# Mission

IIHE  
since  
1972

The Interuniversity Institute for High Energies, IIHE (ULB-VUB), was created in 1972 at the initiative of the academic authorities of both the Université Libre de Bruxelles and Vrije Universiteit Brussel. Its main topic of research is the physics of elementary particles.

The present research programme is based on the extensive use of the high energy particle accelerators and experimental facilities at CERN (Switzerland) and DESY (Germany) as well as on non-accelerator experiments at the South Pole.

The main goal of this experiments is the study of the strong, electromagnetic and weak interactions of the most elementary building blocks of matter. All these experiments are performed in the framework of large international collaborations and have led to important R&D activities and/or applications concerning particle detectors and computing and networking systems.

Research at the IIHE is mainly funded by Belgian national and regional agencies, in particular the Fonds National de la Recherche Scientifique (FNRS) en het Fonds voor Wetenschappelijk Onderzoek (FWO) and by both universities through their Research Councils.

- ❑ Elementary structure of matter
- ❑ Fundamental interactions between them
- ❑ Content and structure of our universe

- Large infrastructure - International collaboration
- R&D and hardware development  
(detection technique, electronics, DAQ, ...)
- Computing infrastructure (grid, software development, ...)
- Analysis tools (ML, statistics, ...)

# People





### Directors



Barbara Claessens  
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CMS, JUNO



Michael Tytgat  
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CMS, JUNO

### Secretariat



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CMS, JUNO



Laura De Smet  
laura.desmet@ulb.be  
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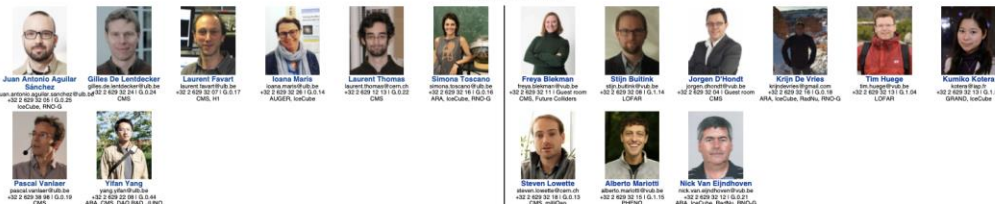


Nina Houtz  
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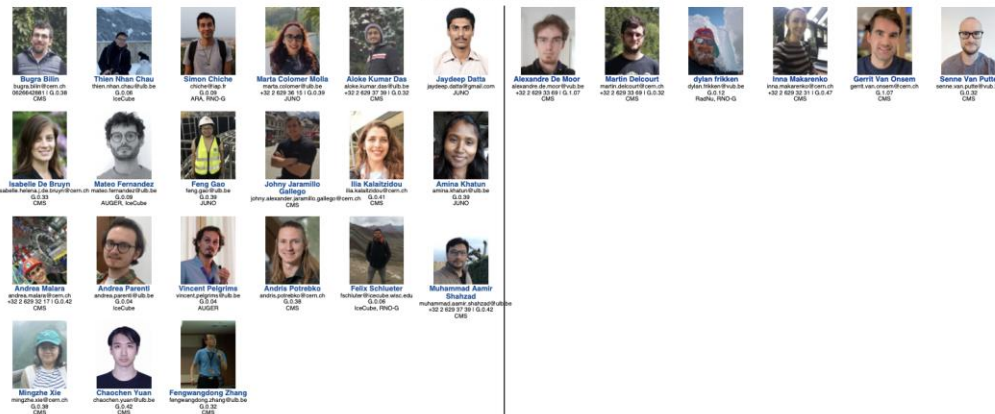


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CMS, JUNO

### Academic Staff



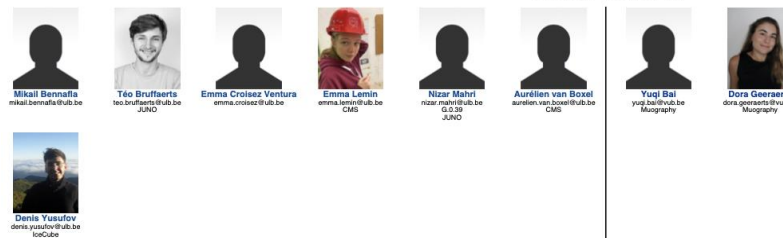
### Post docs and Guests



### PhD Students



### Master Students



### Engineers and technical staff



### Computing



122  
68(ULB)-54(VUB)

# The IIHE family



14



4 + 3



9

SECRETARIAT

5



**iihe**  
BRUXELLES BRUSSEL

122



46 PhD



8 Eng/tech

27 PD



6 IT





# The IIHE family



14

4+3

F:6-M:15

29%-71%



9

F:3-M:6

33%-67%

SECRETARIAT

5

F:4-M:1

80%-20%



46 PhD

F:16-M:30

35%-65%



6

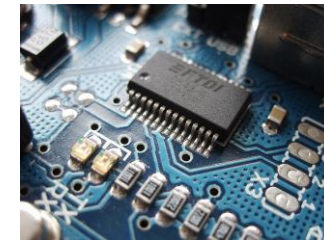
F:0-M:6

**iihe**  
BRUXELLES BRUSSEL

122

F:38-M:84

31%-69%



8

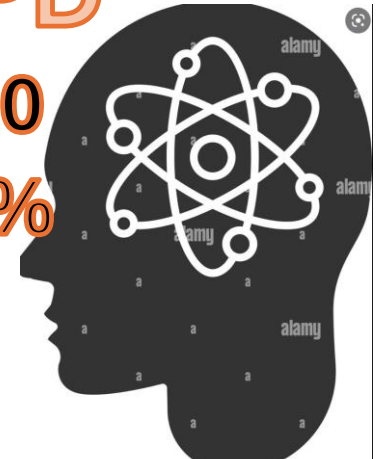
F:2-M:6

25%-75%

27 PD

F:7-M:20

26%-74%

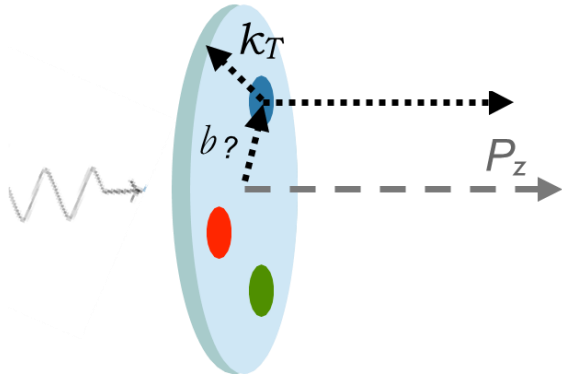




- Technician ULB : Annie Mboube Mboule
- Secretariat VUB : Laura de Backer and Julien Adan
- PD : Jacopo Nava (VUB, Pheno), Andris Potrebko (ULB, CMS), Mingzhe Xie (ULB, CMS)
- PhD : Aya Beshr (ULB, GEM), Stef Duponcheel (VUB, CMS), Dylan Frikken (VUB, radio), Maxime Grandjean (VUB, Pheno), Dora Geeraerts (VUB, Muography, Jan. 2026), Adithyan Rajan (VUB, Muography, Jan. 2026)
- Professor VUB : Charlotte Van Hulse (arriving in April 2026)
- Logistician ULB ( $\frac{1}{2}$  IIHE) 2+2 years : Fakhri Alam (arriving in January 2026)



# New ZAP @ VUB: Charlotte Van Hulse



BOF-ZAP via Odysseus Type I project:

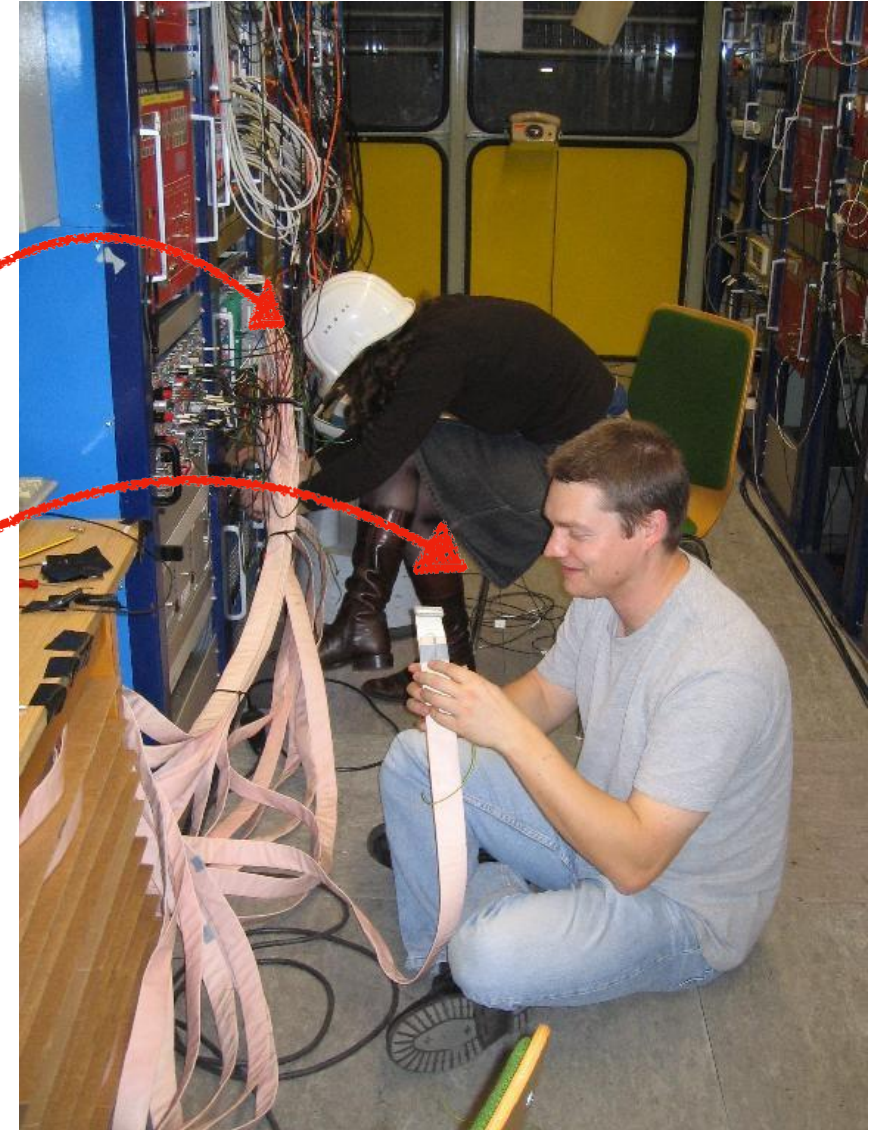
- Multi-dimensional hadron structure via quarkonium production at **CMS** and the **EIC**
- Construction of muon-detector prototype

Starting date April 1<sup>st</sup>, 2026

20 years ago, in the  
HERA East Hall @ DESY

Charlotte

Michael, kindly  
offering his chair



# IIHE Research... Rich and Diverse

see presentations today !

CMS and GEMS/CMS phase 2

61

5

AUGER

JUNO

8

Muography

6

Future Colliders

2

MilliQan

3

3

DAQ R&D

6

PHENO

6

Radnu

9

RNO-G

3

LOFAR

6

ARA

ICECUBE

20

2

PET

1

H1

# Master and PhD thesis at IIHE

2025

PhD

Ali Khalilzadeh	<a href="#">Development of an Automated Assembly Line, DAQ Test Systems, and In-Beam Characterization of 2S Silicon Modules for the CMS Phase-2 Tracker Upgrade at the HL-LHC</a>	CMS	ULB
Fakhri Alam Khan	<a href="#">The CMS High Granularity Calorimeter—Front-end Design, Characterization and Implementation</a>	CMS	ULB
Laurent PÉTRÉ	<a href="#">Development of the data acquisition system, commissioning, and operations of the CMS experiment GE1/1 Triple-GEM detector</a>	CMS	ULB

Master

Mathias Beghuin	<a href="#">Defect detection in silicon charged particle detectors with a short-wave infrared (SWIR) camera</a>	CMS	ULB
Félix Rosso	<a href="#">Optimization of the implementation of JUNO's real-time core-collapse supernovae monitor</a>	JUNO	ULB



# Master and PhD thesis at IIHE

2024

PhD

Djunes Janssens	<a href="#">Resistive electrodes and particle detectors : Modeling and Measurements of Novel Detector Structures</a>	CMS	VUB
Pierre- Alexandre Petitjean	<a href="#">Development and tests of JUNO electronics readout system and study of JUNO performance for core collapse supernova model discrimination</a>	JUNO	ULB
Enrique Huesca Santiago	Understanding Radar Echoes from High-Energy Particle Cascades : A macroscopic approach to the radar echo scatter	IceCube	VUB
Simon De Kockere	<a href="#">Observation of Neutrino-Induced Cascades via Radio Detection Techniques : Modeling the Cosmic-Ray Background</a>	IceCube	VUB

Master

Jannes Loonen	<a href="#">Investigation of the Radar Signal Properties of Neutrino-Induced Particle Cascades in Ice using MARES</a>	IceCube	VUB
Fien Dewit	<a href="#">Study of Environmental Radiation with Plastic Scintillators</a>	Instrumentation	VUB
Vital De Henau	<a href="#">Investigating double bump air showers with the ska</a>	LOFAR	VUB

The list is on the IIHE webpage - It is important to keep it up to date  
(Send the name, title, and link to the thesis to the IT support)

(missing ? : Dieder, Kunal, Eduardo, Yarno, Alex de Moor, Kevin Turbang, Godwin Krampah, Orazio Zapparrata, Nikos Stilianou, Sam Junius, Pragatu Mitra)

# Since last annual meeting

- 28/11/2024 : 2024 IIHE annual meeting at Hotel Barsey
- 01/12 : Michael Tytgat as new director of IIHE-VUB
- 17/12 : Saint Nicholas at the IIHE



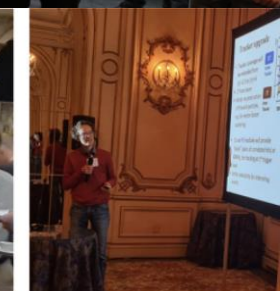
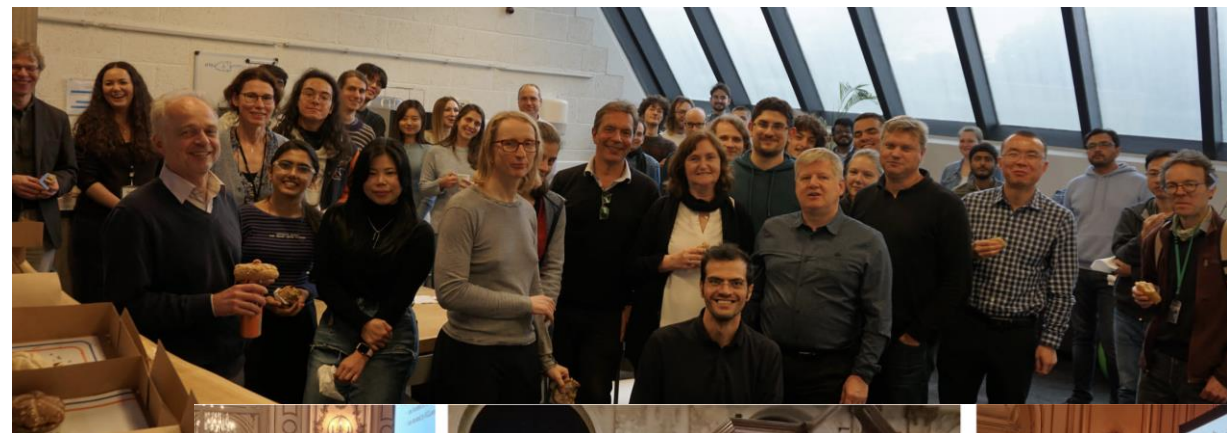
- 19/12 : be.HEP Solstice meeting at ULB
- 09/12 : Christmas party at VUB Complex





# Since last annual meeting

- 18/03 : production of the new CMS tracker started at the IIHE
- 07/04 2025 breakthrough prize in fundamental physics awarded to CMS and other LHC experiments
- 5/2 : Belgian ESPP meeting at UAntwerpen
- 21/05 : New polar season begins for RNO-G – drill team at Summit station
- 24/04 : CMS spokesperson visit to IIHE
- 12/09 : RECFA visit in Belgium
- 07-17/09 BND school in Nijmegen
- 27/10 : COSPA meeting at LIC
- 28-29/10 : PEPS 2025





**What about Jorgen ??**

# Jorgen's Goodbye Party on March 21, 2025





**50 years of Nikhef  
celebration on Oct. 30,  
2025 ...**





# IT



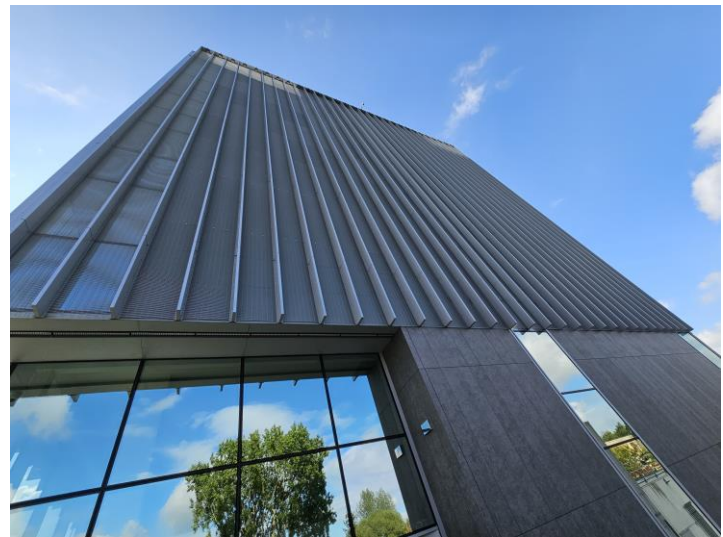
- After 17 years at the data center on the ULB Solbosch campus, the IIHE Tier-2 was relocated in July 2025 to the new VUB Nexus datacenter in Research Park Zellik
- Nexus datacenter (10.000 m<sup>2</sup>) is hosting servers of VUB, UZ Brussel, and Vlaamse SuperComputer (VSC)
- Moving costs shared between ULB/VUB







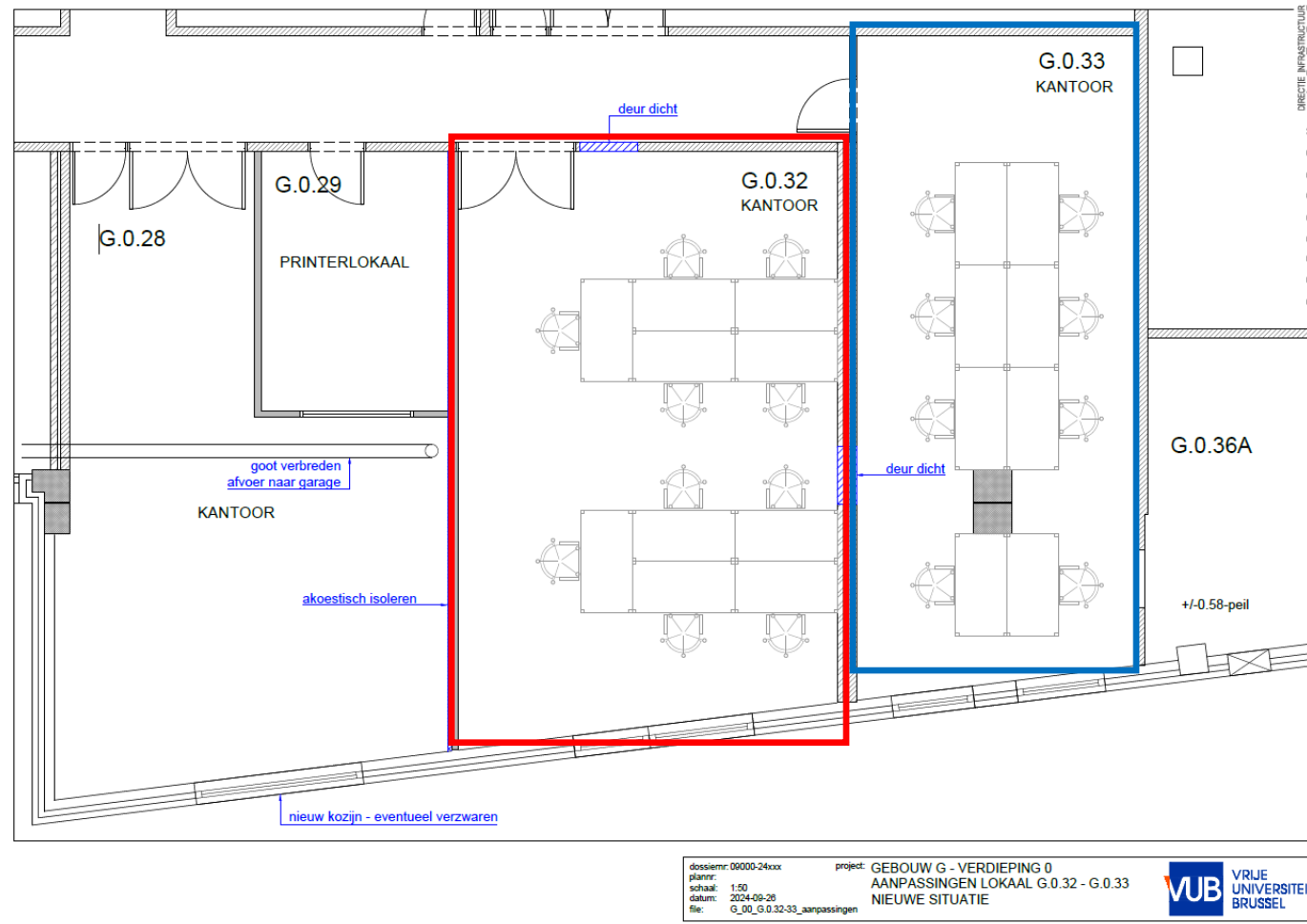
**Many thanks for the IIHE IT team for making this happen, unexpectedly, on very short notice !**





# Infrastructure

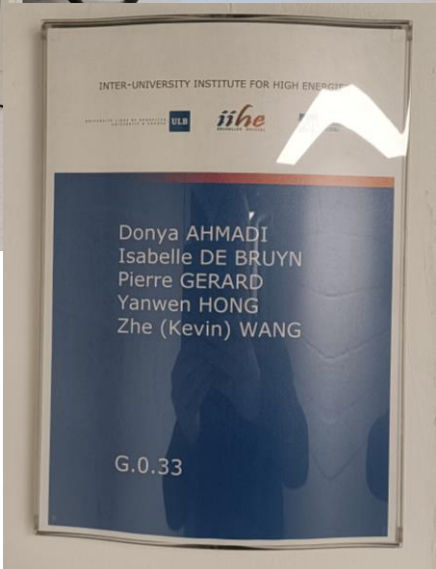
# Renovated offices G.0.32 and G.0.33



**G.0.32: CMS Phase-2 Tracker office**

**G.0.33: Instrumentation office**

# Renovated offices G.0.32 and G.0.33



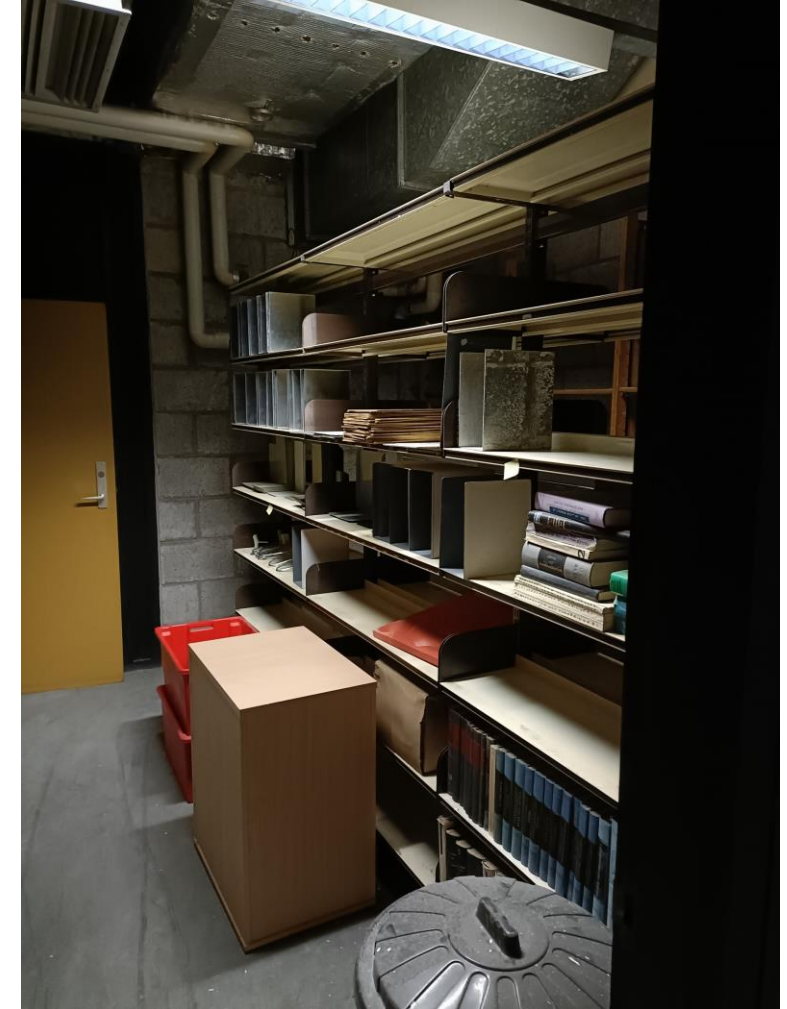


Electronics lab (G.0.40) was fully renovated last year and is now full of activity again





# **iihe** Storage spaces @ IIHE BRUXELLES BRUSSEL



Various storage rooms (G.1.01, G.1.02, G.1.08), full of old books and journals are being emptied to make space for other purposes ... Many thanks to Michael Korntheuer !



## (Partial) cleanup of mechanical workshop

Oct. 23, 2025: removal of several old machines and initial cleanup of mechanical workshop and storage area (G.0.50); many thanks to Yannick, Pierre, Michael K.





IIHE library (G.1.09) is being emptied ; requested renovation to VUB Infra (i.e. fix the hole in the floor ...)

New purpose as a meeting/social room

Propose to move the printer on G.1 to room G.1.08 (storage room next to library)



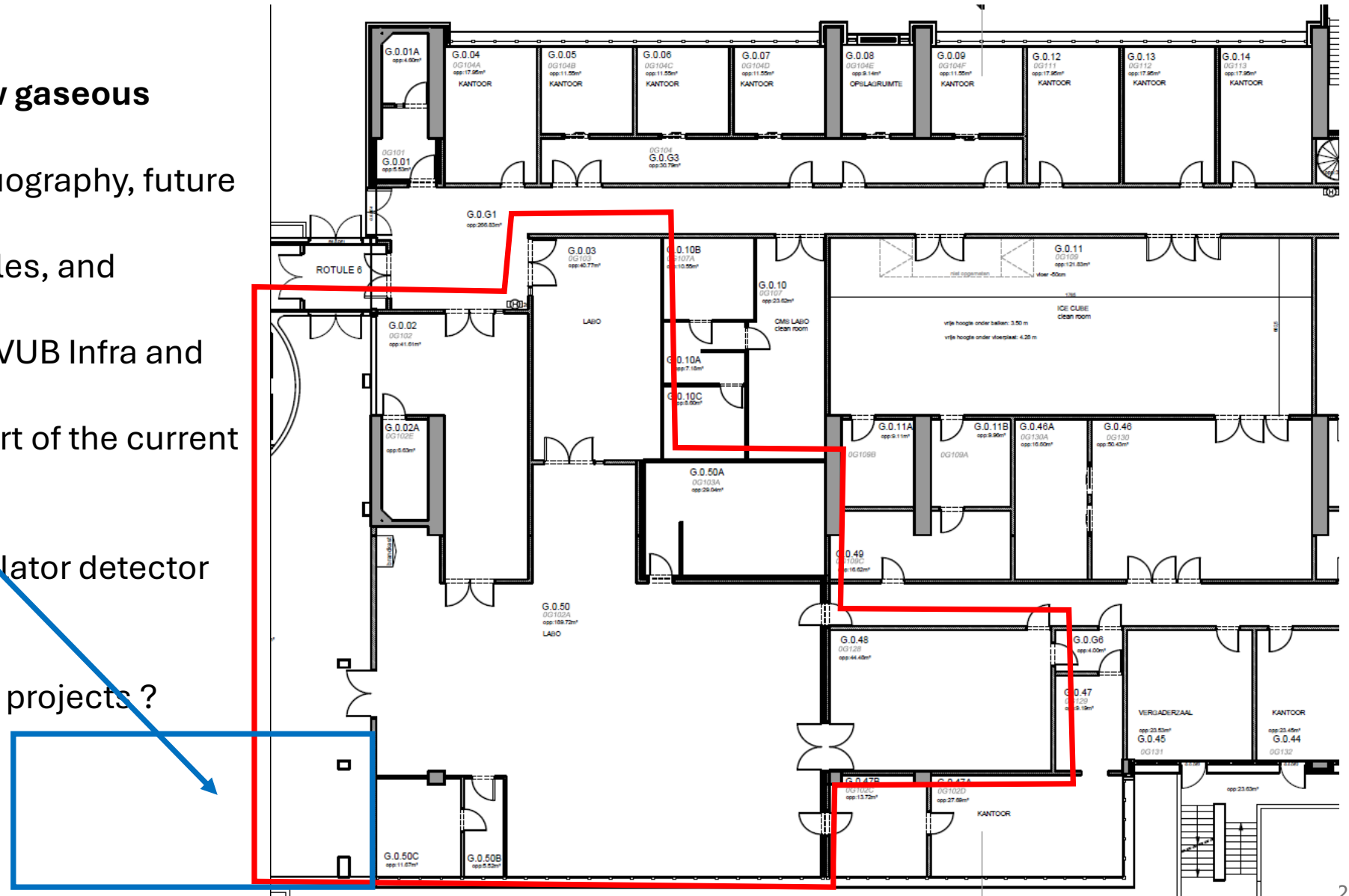
# Cleanup and re-organization of lab spaces

## The quest for space for a **new gaseous detector lab**

- for CMS, DRD1, DRD6, muography, future colliders ...
- to be used by Michael, Gilles, and Charlotte
- ongoing discussions with VUB Infra and PRMI services
- latest idea is to take up part of the current storage area

Creation of a common scintillator detector lab (for Ioana, Michael ...) ?

Other future instrumentation projects ?



# VUB news



# Budget cuts for universities in Flanders

Flemish government approved cuts on the order of ~80M€ for higher education in Flanders, starting Jan. 2026, i.e. ~33M€ for education, ~15M€ for research, and 34€ for student grants ...

Federal government (tbc) is also introducing possible savings on pensions, international development cooperation, tax exemptions for R&D, and FWO budget ...

For VUB this means:

- Budget cut starting 2026 of the order of 15-20M€ for overall base funding, support for non-EER students, Institute for European Studies, BOF ...
- VUB already engaged in savings campaign of 10M€ for 2025-2029 ...
  - iBOF call in Oct. 2025 was cancelled
  - Budget for renovations (VUB Infra) was reduced by 50%
  - Screening of all services and processes, revision of educational program and consolidation of research to identify possible savings
  - Possible increase in student tuition fees
  - ...

## Vlaamse universiteiten waarschuwen voor zware besparingen

28 oktober 2025



De Vlaamse Interuniversitaire Raad (VLIR) waarschuwt in een nieuw persbericht voor de zware impact van de begroting 2026 op universiteiten en studenten. Volgens de VLIR komen zowel kwaliteit als toegankelijkheid van het hoger onderwijs onder druk te staan.

Besparingen op universiteiten én nu ook op studenten dreigen bodem weg te slaan van onder de Vlaamse kenniseconomie

Afgelopen vrijdag keurde de Vlaamse Regering het programmadecreet bij de begroting 2026 goed en gaf ze in een apart decreet groen licht voor een drastische hervorming van de studietoelagen. De onderliggende cijfers van de impact op onze universiteiten zijn onthutsend: min 32,8 miljoen euro voor hoger onderwijs en min 14,5 miljoen euro voor onderzoek. Daarnaast worden ook de studenten direct getroffen door een besparing van 33,8 miljoen euro op de studietoelagen. Dit is bijzonder zorgwekkend in het licht van de noden van onze kenniseconomie.


# IIHE Communication & Outreach

# IIHE News

See the "News" on the IIHE webpages


News

**RECFA visit Belgium on September 12th**  
10/10/2025




[More >>](#)

**Stef Duponcheel Awarded the Robert Brout Prize at VUB Graduation Ceremony**  
07/10/2025




[More >>](#)

**Soumya Dansana presents his thesis results: hunting exotic H bosons decaying into lightweight scalar particles**  
10/09/2025




[More >>](#)

**Katarina Simkova elected as the Early-Career Representative of the Pierre Auger Collaboration**  
03/09/2025




[More >>](#)

**JUNO starts taking data !**  
29/08/2025




[More >>](#)

**Successful completion of the IIHE Tier-2 move to Zellik!**  
23/07/2025




[More >>](#)

**Award for Itana Bubanja's Exemplary Role in CMS Run 3 Operations**  
16/06/2025




[More >>](#)

**Gilles De Lentdecker : project manager of the CMS muon system**  
16/06/2025



[More >>](#)

**Welcome Annie to the IIHE !**  
04/06/2025




[More >>](#)

See the "IIHE photo repository" on the intranet


All Owned Shared

Search albums

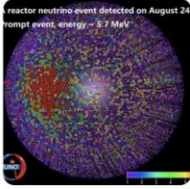
▼ **2025** (7 Albums)




**Peps 2025**  
Oct 2025  
21 items • Shared




**2025 - RECFA**  
Sep 2025  
73 items • Shared





**2025 - Juno**  
Jul 2023 - Aug 2025  
11 items • Shared



**2025 - T2\_Relocati**  
Jun - Jul 2025  
38 items • Shared







If you have great news to share :  
Discuss with your promotor  
and communicate with the IT support  
(title, picture, text)

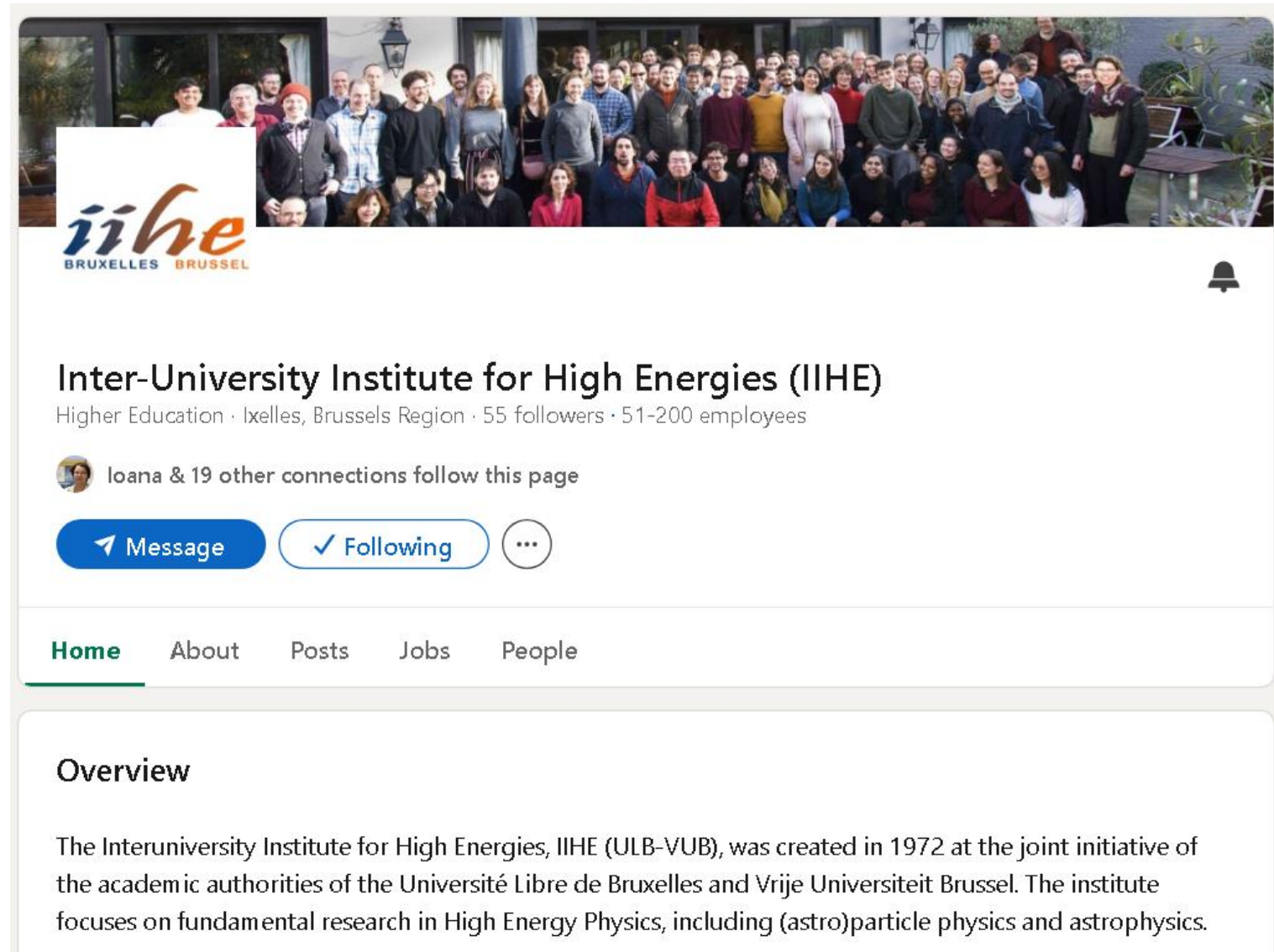


## IIHE on [Linked](#)

Follow the page and contribute !

News on IIHE web site

-> also posted on LinkedIn by IT group



The screenshot shows the LinkedIn profile of the Inter-University Institute for High Energies (IIHE). The header features a large group photo of IIHE staff and the IIHE logo. The page title is "Inter-University Institute for High Energies (IIHE)" with a subtitle "Higher Education · Ixelles, Brussels Region · 55 followers · 51-200 employees". Below this, it states "Ioana & 19 other connections follow this page". There are buttons for "Message", "Following", and a menu icon. The navigation bar includes "Home", "About", "Posts", "Jobs", and "People". The "Overview" section describes the institute's history and research focus.

**Inter-University Institute for High Energies (IIHE)**  
Higher Education · Ixelles, Brussels Region · 55 followers · 51-200 employees

Ioana & 19 other connections follow this page

Message Following ...

Home About Posts Jobs People

### Overview

The Interuniversity Institute for High Energies, IIHE (ULB-VUB), was created in 1972 at the joint initiative of the academic authorities of the Université Libre de Bruxelles and Vrije Universiteit Brussel. The institute focuses on fundamental research in High Energy Physics, including (astro)particle physics and astrophysics.

## **Regular outreach activities @ IIHE**

- Masterclasses for CMS (Apr 12, 2025) and Astroparticle physics (Apr 29, 2025)
- School visits (Oct. 23, 2025)
- VUB Open lecture days (Nov 5, 2025)
- Contributions from individuals to VUB/ULB/regional projects

## **➤ Creation of an IIHE Outreach Team ?**

- Representatives from each research team
- Collection of readily available outreach materials (slides, demo setups, detector pieces ...)
- Follow-up of local/regional outreach initiatives (Dag van de Wetenschap, I love Science ...)
- New ideas ...

**What's next ?**



## About annual meeting

for the next edition :

What is nice ?

What to add/change ?



## About life at the IIHE :

What do you (dis)like ?

New ideas ?



# **iihe** IIHE End-of-Year Party

BRUXELLES BRUSSEL



- Where: **'t Complex**  
(VUB Building L, Sports Complex)
- When: Dec. XX, 2025 (tbc)
- What: Food buffet & open bar
- And what else ...?



2025 IIHE Annual Meeting

Monday Nov 10, 2025, 9:00 AM → 6:00 PM

Europe/Brussels

Green room (U-residence at the VUB)

Adriano Scodrani , Barbara CLERBAUX (IIHE) , Denis Dutrannois (IIHE Support) , Michael Tytgat (Vrije Universiteit Brussel) , Olivier DEVROEDE (IIHE)

Description

The venue is U-residence at the VUB

9:00 AM → 9:25 AM

Overview from IIHE directors

Speakers: Barbara CLERBAUX (IIHE), Michael Tytgat (Vrije Universiteit Brussel)

🕒 25m

9:30 AM → 9:45 AM

News from IT group

Speaker: Shkelzen RUGOVAC (ULB)

🕒 15m

9:50 AM → 10:05 AM

News from Ing./tech. group

Speaker: Michael Korntheuer (ULB)

🕒 15m

10:10 AM → 10:30 AM

Highlights from CMS

Speaker: Iliia Kalaitzidou (ULB)

🕒 20m

10:35 AM → 11:05 AM

Coffee break

🕒 30m

11:10 AM → 11:25 AM

CMS Phase-2 Tracker

Speaker: Aloke Kumar Das (Post doctoral Researcher)

🕒 15m

11:30 AM → 11:45 AM

Highlights from IceCube

Speaker: Else Magnus

🕒 15m

11:50 AM → 12:05 PM

Highlight from RNO-G and RET

Speaker: Ruben Camphyn (ULB- IIHE)

🕒 15m








12:10 PM → 12:25 PM

Highlights from LOFAR and SKA

Speaker: Vital De Henau (vub)

🕒 15m



12:30 PM → 2:00 PM	Lunch	🕒 1h 30m
2:00 PM → 2:30 PM	<b>Presentation of newcomers</b> One slide per person	🕒 30m 
2:35 PM → 2:50 PM	<b>Highlights from Auger</b> Speaker: Katarína Simková (Vrije Universiteit Brussel)  Auger_group_IIHE_a...	🕒 15m 
2:55 PM → 3:10 PM	<b>Highlights from JUNO</b> Speaker: Amina Khatun	🕒 15m 
3:15 PM → 3:45 PM	Coffee break	🕒 30m
3:45 PM → 4:05 PM	<b>Highlights from gravitational wave physics and pheno research</b>	🕒 20m 
4:10 PM → 4:25 PM	<b>Highlights from Instrumentation R&amp;D and BHEP applications</b> Speaker: Yanwen Hong (Vrije Universiteit Brussel)	🕒 15m 
4:30 PM → 4:40 PM	<b>Highlights from MilliQan</b> Speaker: Tiepolo Wybouw (Vrije Universiteit Brussel (BE))	🕒 10m 
4:45 PM → 5:30 PM	Drink	🕒 45m

# Backup

REMINDER :  
LIC (Learning Innovation  
Center)  
ULB/VUB libraries

- Place to study for both  
ULB and VUB students
- Nice auditorium for PhD  
defenses on the ground  
floor

