Proposal to join ePIC:

Vrije Universiteit Brussel (VUB)

Charlotte Van Hulse
VUB

ePIC Council meeting
May 29, 2026

The physics group

- VUB: 25 000 students
- Physics department:
  - Applied physics
  - High Energy Physics (HEP@VUB): 50 researchers

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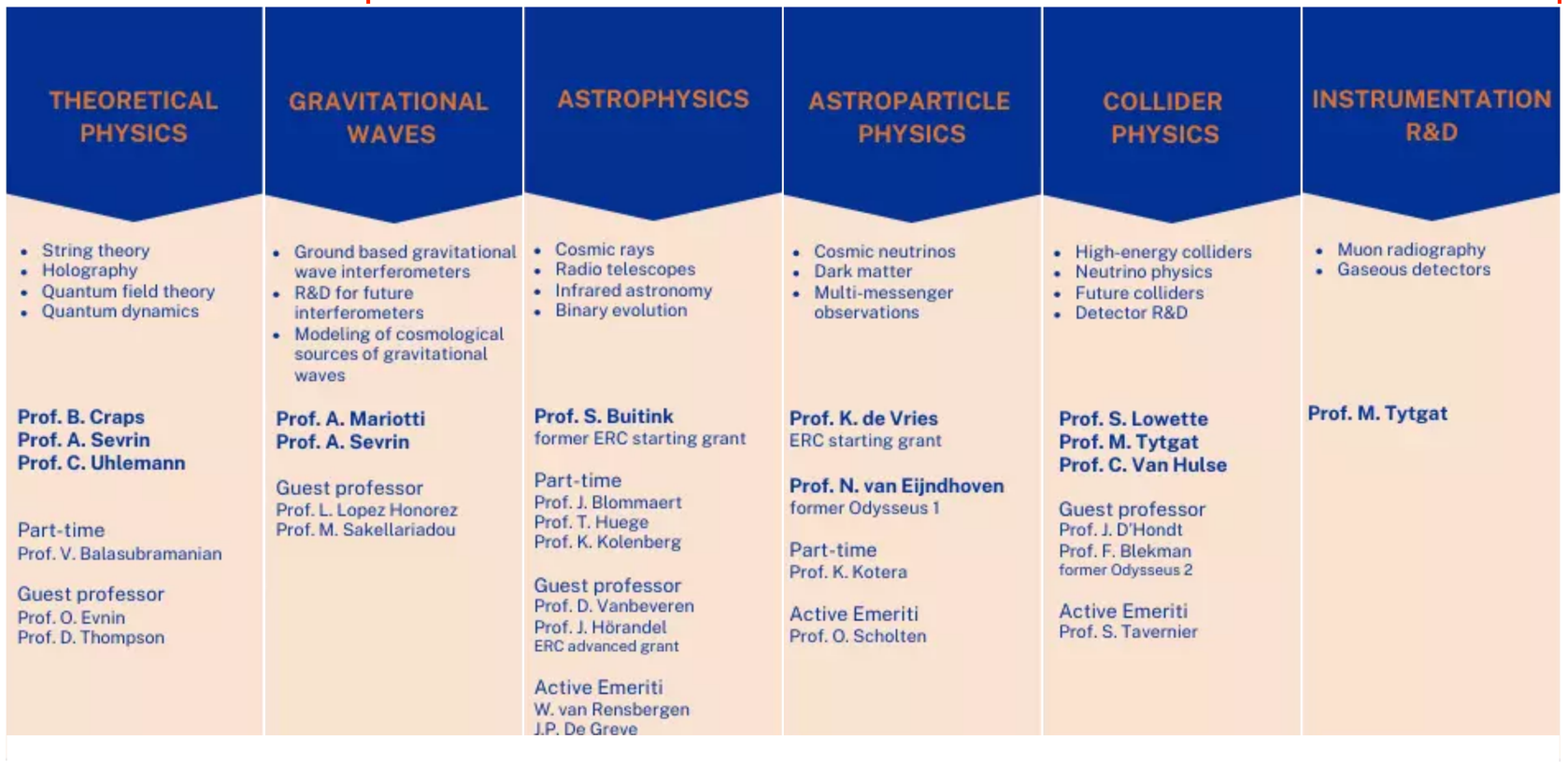


+ ULB

iihe

Inter-university Institute
for High Energies (since 1972)

100 researchers

16 staff members

30 postdocs

Some of the activities at HEP@VUB/IIHE

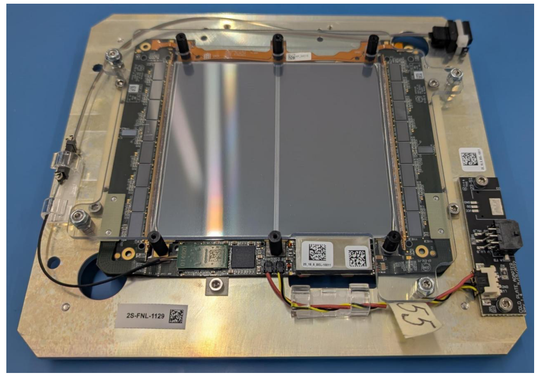
- ARA, IceCube, LOFAR, Pierre Auger, RadNu, RNO-G, JUNO (ULB)

- CMS – physics:
  - Searches for new physics
  - Higgs-boson studies
  - Top-quark physics
  - Drell-Yan: quark TMDs (ULB)

- CMS – detectors:
  - Upgrade tracker: building and testing of 1600 silicon modules with on-detector data processing capability
  - Muon detectors (leading roles)

- Instrumentation:
  - Open-end detector R&D: gaseous detectors (GEM-like, RPCs) DRD1 (gaseous detectors) and DRD6 (calorimetry)
  - Non-HEP applications: muography, medical physics
  - Strong expertise in read-out electronics (ULB)

Completed sensor module



Clean room

Plan for new activity at VUB

- New position at VUB started in April of 2026,
  through Odysseus grant, which
  - requires application to be accepted by research group and VUB
  - evaluates quality of embedding with proposed project

  ⟶ Desire of VUB to join ePIC/EIC efforts.

  Strongly supported also by ULB

- Planned main activities (detector activities and 3D hadron structure):
  - ePIC/EIC
  - CMS

Current and planned activities for ePIC

- Past and current physics analysis activities:
  - Started first EIC studies in 2016
  - Study of semi-inclusive processes at ePIC:
    helicity distributions, nuclear fragmentation
  - Co-convenor of the ePIC SIDIS working group (2022–2024)
- Planned contributions
  - Analysis:
    - continue and expand activities in SIDIS WG
    - explore muon reconstruction and (semi-)inclusive quarkonium production
  - Simulation/hardware:
    - Collaboration with Tyler Kutz — Mainz (planned submission of bilateral grant application), exploring options:
      - Full implementation of EEMCAL in MC and related studies (collaboration with Carlos Muñoz – IJCLab)
      - Participation in design and building of ZDC
- Participants
  - Currently: 1 staff member (me)
  - Soon: PhD student Javier Jiménez López (F_L at EIC, inclusive studies early science, gluon Sivers at ePIC):
    mainly CMS but part-time also free to work on ePIC
  - Future PhD students (3) and post-docs (3): free to part-time contribute to ePIC
  - Exploring a longer-term involvement of IIHE

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Thank you for your attention