

# DRD1 COLLABORATION MEETING

06-10 OCTOBER  
2025 **WARSAW**

Organised by:

**ASTROCENT**

NICOLAUS COPERNICUS  
ASTRONOMICAL CENTER  
OF THE POLISH ACADEMY OF SCIENCES

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**DRD1**  
Gaseous Detector Technologies

astrocent.camk.edu.pl



## *Introduction*

### *WG3 – Gas and material studies*

Alessandra Pastore (INFN Bari)  
on behalf of the DRD1 WG3 Convenors

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Mailing list: [drd1-wg3@cern.ch](mailto:drd1-wg3@cern.ch)

E-group link to subscribe: DRD1-WG3

Official discussion forum: <https://drd1-forum.web.cern.ch/>

# Activities and communications

- 2 CERN Summer Student Projects successfully completed – Summer 2025

Long-term performance studies of RPC detectors operated with eco-friendly gas mixtures at the CERN GIF++ facility

Henrietta Szalai

Supervisors: Beatrice Mandelli and Marcello Abbrescia,  
Mattia Verzeroli and Stefania Juks



EP-DT  
Detector T1

26.08.2025

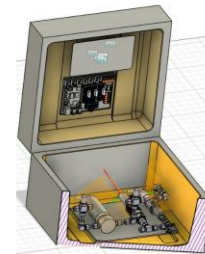
Ori Salomon

TU/e  
Eindhoven University of Technology

<https://tinyurl.com/drd1ecocss25>

*Today's session*

Gas monitoring sensors and  
real-time visualisation



Supervisors: Florian Maximilian Brunbauer (CERN)  
and Gianluca Rigoletti (CERN)



- **OTELLO project proposal submitted to EU – September 2025**  
*task 6.2 focused on the development of sustainable and high performance gas mixtures for next-generation gaseous detectors*
- Thanks to the WG3 community, we received many talk proposals for this meeting. Unfortunately, it was not possible to accommodate them all this time. We look forward to hearing about your contribution at the next meeting.

# Today's contributions

|       |                                                                                                                                                          |                        |               |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------|
| 15:00 | Impact of trace amounts of water on the stability of MPGDs                                                                                               | Piotr Gasik            | 14:40 - 15:00 |
|       | Oxygen and isopropyl alcohol as additives in drift chamber gas mixtures                                                                                  | Francesco Renga        | 15:00 - 15:20 |
|       | Development of a Modular Gas Monitoring System (GMS) for Real-Time Quality Assessment in Gaseous Radiation Detectors<br><i>Gianluca Rigoletti et al.</i> |                        |               |
|       | Negative ions as charge carriers in gaseous detectors: First results on SF <sub>6</sub> and Xe-SF <sub>6</sub> mixtures.                                 | Afonso Marques         | 15:40 - 16:00 |
| 16:00 | <i>Coffee time</i>                                                                                                                                       |                        |               |
| 17:00 | Replacement of the SF <sub>6</sub> in the RPC detector                                                                                                   | Giorgia Proto          | 16:40 - 17:00 |
|       | Timing performance of Picosec Micromegas with environmental-friendly gas mixtures                                                                        | Ilaria Vai et al.      | 17:00 - 17:20 |
|       | Primary and secondary scintillation of Ar/N <sub>2</sub> and Ar/CF <sub>4</sub> mixtures under X-ray irradiation                                         | Raul Senaris Buso      | 17:20 - 17:40 |
|       | Unveiling Surface Chemistry and Ageing Pathways of GEMs through In-Situ Surface Spectroscopy                                                             | Tiago Fiorini da Silva | 17:40 - 18:00 |