

DRD1 Elections (Co-Spokesperson) - Eraldo Oliveri – CV

Geneva, December 5, 2023

In the following lines, aspects of the CV relevant to the election for the Co-Spokesperson of the DRD1 Collaboration will be highlighted.

Detector R&D

I have been a member of the Gas Detectors Development (GDD) team of the EP-DT-DD section at CERN since 2012. The group, created in the late sixties by Georges Charpak and led by Fabio Sauli and recently Leszek Ropelewski, has been under my leadership since May this year.

With the GDD team, we engage in generic and project-driven R&D, exploring innovative solutions and concepts based on gaseous detectors. The PIOCSEC Micromegas detector for precise and fast timing is a notable example. Additionally, we provide support to experiments, contributing to LHC upgrades such as ALICE GEM TPC, CMS GEM muon system, and ATLAS NSW micromegas. Our applications extend beyond High Energy Physics (HEP), supporting projects like the NMX instrument for neutron diffraction at the European Spallation Source.

In these projects, my responsibilities cover the entire spectrum of detector-related activities, including design and modelling, construction, characterization, and optimization. We actively participate in the development of new characterization techniques, integration, and advancement of front-end electronics, data acquisition systems, and instrumentation.

I have had the opportunity to shape the CERN EP Strategic Research and Development (R&D) program for future experiments. Since the program's start in 2020, I have been the Work Package Leader, specifically overseeing Gaseous Detector technologies (WP2) within the program.

R&D in HEP Experiments

In 2006, I joined the TOTEM experiment at the LHC, focusing on the GEM-based forward inelastic telescope. This telescope played a crucial role in measuring the proton-proton total cross-section and investigating forward inelastic processes. Over several years, I assumed various responsibilities, including detector characterization, integration of final front-end electronics (VFAT2), assembly and testing of the telescope, installation, commissioning, and operation at the LHC (P5, CMS). I actively participated in data-taking during LHC runs and conducted maintenance tasks to ensure optimal functionality. My activities in TOTEM ceased when I joined the GDD team.

RD51 Collaboration

In 2009, I joined the RD51 collaboration as a member of the Siena-Pisa group. After joining the GDD team in 2012, I had the opportunity to cover various roles within the collaboration, including:

- **RD51 Co-Spokesperson** together with M. Titov [2023]
- **WG7 Co-Convener**, together with Yorgos Tsiolitis, overseeing the Common Test Facilities (GDD laboratory and semi-permanent test beam at CERN/SPS) [2012-today].
- **RD51 Technical Coordinator** [2013-2022].

Additionally, I served the collaboration as:

- Technical Contact at CERN for the Scalable Readout System (SRS) [2013-today].
- Coordination of AIDA2020 [2013-2020] and AIDAInnova [2021-today] subtasks at CERN, focusing on common developments for the RD51 Scalable Readout System (SRS).
- Organization of RD51 meetings (CM and mini-week) and coordination of common events such as schools (e.g., electronic school), lectures (e.g., open lectures on signal formation), and topical workshops (e.g., FE electronics).
- Editor of the latest RD51 extension program (LHCC-SR-006) and subsequent international scientific studies (e.g., ESPPU) to showcase our collaborative R&D model.

DRD1 Implementation Team

I have been involved in the formation of the DRD1 collaboration from the beginning of the implementation phase, covering, together with several other colleagues, the following roles:

- Technology Representative for MPGD in the **DRD1 Working Group Team**
- Reference person for the **Working Group on Common Facilities (WG7)**
- Editor of the **DRD1 Proposal**