

## Introduction to the DRD3 WG2 meeting

Anna Macchiolo (UZH)

Alessandro Tricoli (BNL)

Martin van Beuzekom (Nikhef)

# List of WG/WP2 Projects

# DRD3

## Approved Projects

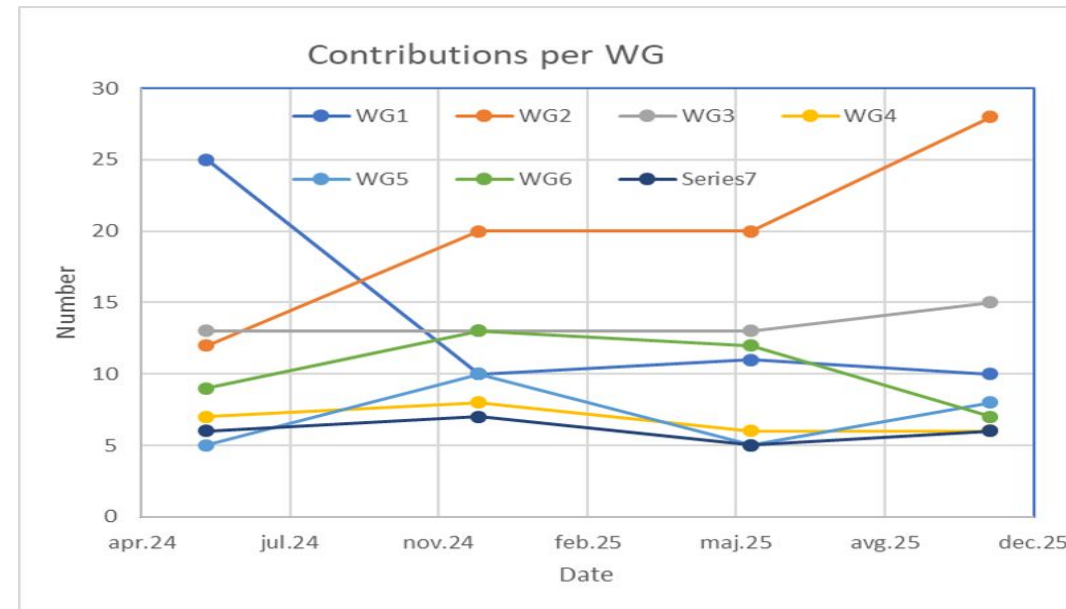
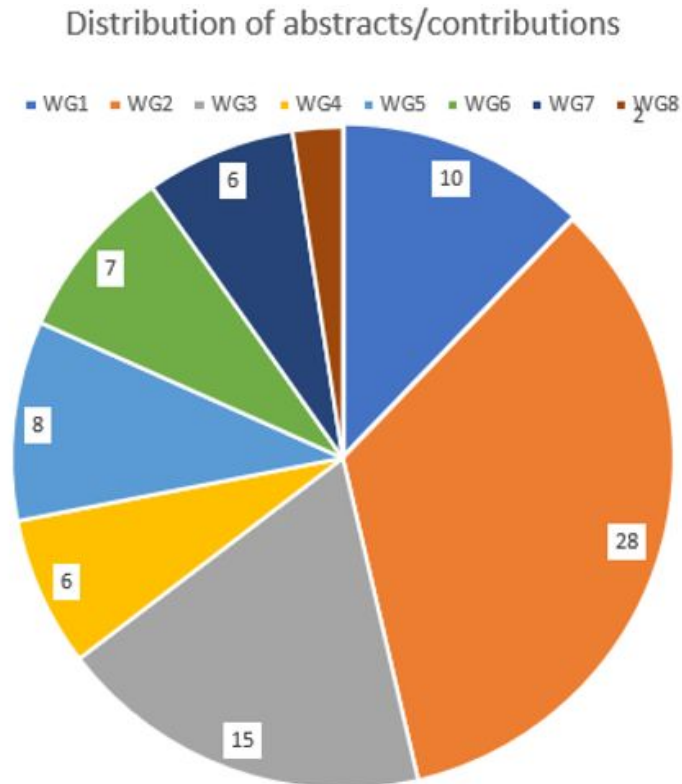
- **Development of TI-LGADs for 4D Tracking**  
Contact: Anna Macchiolo ([Anna.Macchiolo@cern.ch](mailto:Anna.Macchiolo@cern.ch))
- **Novel silicon 3D-trench pixel detectors based on 8-inch CMOS process**  
Contact: Manwen Liu ([liumanwen@ime.ac.cn](mailto:liumanwen@ime.ac.cn))
- **Development of Ultra Fast-Time Low Mass Tracking Detectors**  
Contacts: Artur Apresyan ([Artur.Apresyan@cern.ch](mailto:Artur.Apresyan@cern.ch)), Koji Nakamura, ([Koji.Nakamura@cern.ch](mailto:Koji.Nakamura@cern.ch)), Alessandro Tricoli ([Alessandro.Tricoli@cern.ch](mailto:Alessandro.Tricoli@cern.ch))
- **LGAD based timing tracker development for future collider**  
Contact: Mei Zhao ([mei.zhao@cern.ch](mailto:mei.zhao@cern.ch))
- **Development of very small pitch, ultrarad-hard 3D sensors for tracking + timing applications @ FBK**  
Contact: Maurizio Boscardin ([boscardi@fbk.eu](mailto:boscardi@fbk.eu)),  
Gian Franco Dalla Betta ([gianfranco.dallabetta@unitn.it](mailto:gianfranco.dallabetta@unitn.it))

- Projects approved by CB during the June DRD3 Week
- Already added to MoU Annex7

## Proposed Projects

- **Several Projects were presented in past months, see slide 4 here:**  
[https://indico.cern.ch/event/1584827/contributions/6679070/attachments/3147979/5589391/WG2\\_Introduction\\_Oct2025.pdf](https://indico.cern.ch/event/1584827/contributions/6679070/attachments/3147979/5589391/WG2_Introduction_Oct2025.pdf)
- **Technology stabilization and yield optimization in IMB-CNM LGADs ← TODAY**  
Contact: Pablo Fernandez  
([Pablo.Fernandez@imb-cnm.csic.es](mailto:Pablo.Fernandez@imb-cnm.csic.es))
- **MPW Production of LGADs at BNL ← TODAY**  
Contacts: Gabriele Giacomini ([giacomini@bnl.gov](mailto:giacomini@bnl.gov))

- Projects can ask for approval at the next CB mtg
- Let us know which projects seek approval
- (We will need CDS document for review by convenors and successively CB)



- Great interest on Hybrid silicon detectors (WG2) in the community, as shown by the number of submitted abstracts to this DRD3 workshop
  - Scientific Topics
    - 3D Sensors
    - Planar Sensors, SiEM
    - LGAD, AC-LGAD, IT-LGAD, iLGAD, DC-RSD
    - Production techniques
    - Radiation effects (common with WG3)

# The WG2 sessions: Tuesday

# DRD3

## Morning

## Afternoon

3D


Special  
Talk

TI-LGAD  
AC-LGAD

Projects

LGAD,  
AC-LGAD  
DC-RSD

Fabrication

09:00	<b>Introduction</b> 6/2-024 - BE Auditorium Meyrin, CERN	Alessandro Tricoli et al. 09:00 - 09:05
	<b>The first results from Three Photon Absorption (3PA) and Two Photon Absorption (2PA) TCT on irradiated 3D CNM devi...</b> Gordana Lastovicka-Medin	
	<b>IV, CV, Fast Timing and Top TCT Measurement Results of the RD50 Common Project Double-Sided 3D Sensors</b> Yannik Sibold	
	<b>Development of 3D silicon pixel sensors at USTC</b> 6/2-024 - BE Auditorium Meyrin, CERN	Kuo Ma 09:41 - 09:57
10:00	<b>3D detectors with gain for 4D tracking</b> 6/2-024 - BE Auditorium Meyrin, CERN	Gregor Kramberger 09:59 - 10:15
	<b>Novel silicon 3D-trench pixel detectors based on 8-inch CMOS process (IME) studied with 2PA and 3PA using laser bea...</b> Gordana Lastovicka Medin	
	<b>Development of 3D Pixel Sensors via an 8-inch CMOS-Compatible Process</b> 6/2-024 - BE Auditorium Meyrin, CERN	Huimin Ji 10:35 - 10:51
11:00	<b>Coffee Break</b> 6/2-024 - BE Auditorium Meyrin, CERN	10:53 - 11:23
	<b>Investigation of Spatial Patterns of Elevated Cell Leakage Currents in HGAL Silicon Sensors</b> 6/2-024 - BE Auditorium Meyrin, CERN	Ebru Simsek 11:23 - 11:39
12:00	<b>Intra-Pixel Weighting-Field-Driven Timing Non-Uniformity Measured with the TimePix4 Telescope</b> 6/2-024 - BE Auditorium Meyrin, CERN	Artem Shepelev 11:41 - 11:57
	<b>Results from iLGAD sensors bump bonded to Timepix4</b> 6/2-024 - BE Auditorium Meyrin, CERN	Daan Jasper Oppenhuis 11:59 - 12:15
	<b>Observation of charge multiplication in a SiEM</b> 6/2-024 - BE Auditorium Meyrin, CERN	Victor Coco 12:17 - 12:33
	<b>Study of TI-LGAD for low penetrating radiation</b> 6/2-024 - BE Auditorium Meyrin, CERN	Parisa Rezaei Mianroodi  12:35 - 12:51

13:00	<b>lunch break</b> 6/2-024 - BE Auditorium Meyrin, CERN	12:51 - 14:00
	<b>Robert Klanner's talk on the history of silicon vertex detectors: <a href="https://indico.cern.ch/event/1480892/timetable/">https://indico.cern.ch/event/1480892/timetable/</a></b> 6/2-024 - BE Auditorium Meyrin, CERN	14:00 - 14:30
14:00	<b>Performance of irradiated TI-LGADs at 120 GeV SPS pion beams</b> 6/2-024 - BE Auditorium Meyrin, CERN	Iskra Veikovska 14:32 - 14:48
	<b>Status of USTC pixel and strip AC-LGAD sensors</b> 6/2-024 - BE Auditorium Meyrin, CERN	Han Li 14:50 - 15:06
	<b>Stress Tests on Low Gain Avalanche Diodes and AC-coupled Low Gain Avalanche Diodes</b> 6/2-024 - BE Auditorium Meyrin, CERN	Gaetano Barone et al. 15:08 - 15:24
	<b>ML processing and compression of signal shared AC-LGADs</b> 6/2-024 - BE Auditorium Meyrin, CERN	Don Ching-Long Wong et al. 15:26 - 15:42
15:00	<b>Project: CNM</b> 6/2-024 - BE Auditorium Meyrin, CERN	Pablo Fernandez-Martinez 15:44 - 15:54
	<b>Project: MPW Production of LGADs at BNL</b> 6/2-024 - BE Auditorium Meyrin, CERN	Gabriele Giacomini 15:54 - 16:04
16:00	<b>Coffee Break</b> 6/2-024 - BE Auditorium Meyrin, CERN	16:04 - 16:34
	<b>Performance of AC-LGADs for ePIC and beyond</b> 6/2-024 - BE Auditorium Meyrin, CERN	Dr Simone Michele Mazza 16:34 - 16:50
17:00	<b>Properties of DC-RSD with different surface resistivities and pixel sizes</b> 6/2-024 - BE Auditorium Meyrin, CERN	Nicolo Cartiglia 16:52 - 17:08
	<b>Advancements in Low-Gain Avalanche Diodes (LGADs) for the ALICE 3 timing layers</b> 6/2-024 - BE Auditorium Meyrin, CERN	Francesca Carnesecchi 17:10 - 17:26
	<b>Towards Active Edge Silicon Sensors Fabricated with Edge Ion Implantation And Microwave Anneal Activation</b> Andrew Donald Gentry	
18:00	<b>55 μm thick NLGAD sensors from FBK</b> 6/2-024 - BE Auditorium Meyrin, CERN	Marco Ferrero 17:46 - 18:02

# The WG2 sessions: Wednesday

# DRD3

## Morning: Joint with WG3

09:00	<b>Gain suppression studies on IMB-CNM LGAD detectors</b> 6/2-024 - BE Auditorium Meyrin, CERN	Jairo Antonio Villegas Dominguez 09:00 - 09:16
	<b>Gain Suppression Study in LGADs with Different Gain Layers</b> 6/2-024 - BE Auditorium Meyrin, CERN	Leo Cavazzini 09:18 - 09:34
	<b>TI-LGADs for PPS2 Timing Detector Upgrade</b> 6/2-024 - BE Auditorium Meyrin, CERN	Cristovao Beirao Da Cruz E Silva 09:36 - 09:52
10:00	<b>Technological development and performance of Low Gain Avalanche Detectors with and without carbon co-doping at I...</b> Florent Dougados	
	<b>Radiation hardness of 24 GeV proton and mixed irradiated LGADs for ATLAS High Granularity Timing Detector</b> 6/2-024 - BE Auditorium Meyrin, CERN	Bojan Hiti 10:12 - 10:28
	<b>Proton Energy Dependence of Gain Layer Degradation in LGADs</b> 6/2-024 - BE Auditorium Meyrin, CERN	Veronika Kraus 10:30 - 10:46
11:00	<b>Coffee break</b> 6/2-024 - BE Auditorium Meyrin, CERN	10:55 - 11:25

- Today Tuesday 11/11/2025
  - 21 scientific presentations
  - 2 WP2 project presentations
- Tomorrow Wednesday 12/11/2025 (Common session WG2/WG3)
  - 6 scientific presentations

Very busy schedule!

Speakers please upload talk at least 1 hour in advance and keep to the time

- Scientific results: 13+3 min
- Projects: 8+2 min