



FTM – general meeting

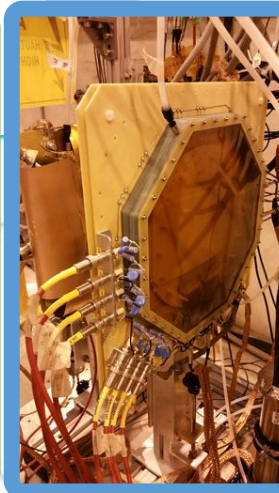
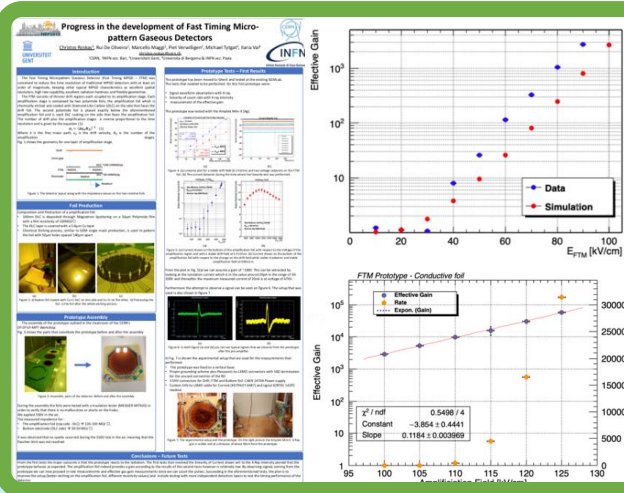
Piet Verwilligen

Marcello Maggi

INFN – Bari

29-07-2020



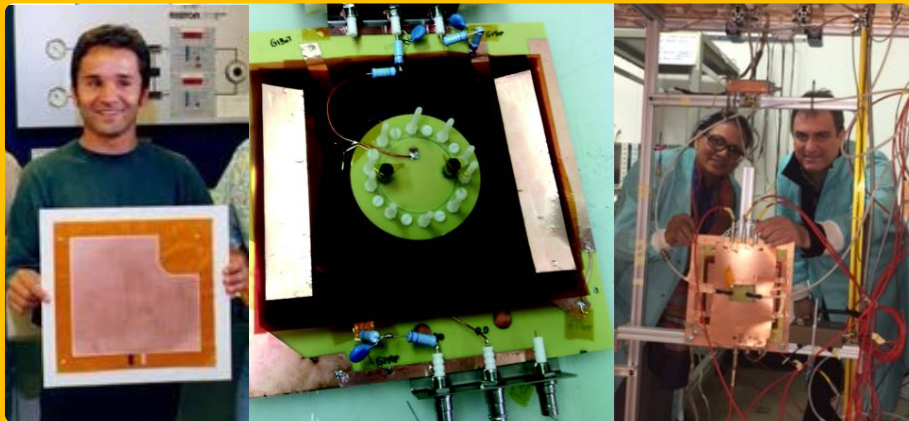


10x10 FTM Prototype Studies:
 Single Layer (Gent) – Multi Layer (Pavia)

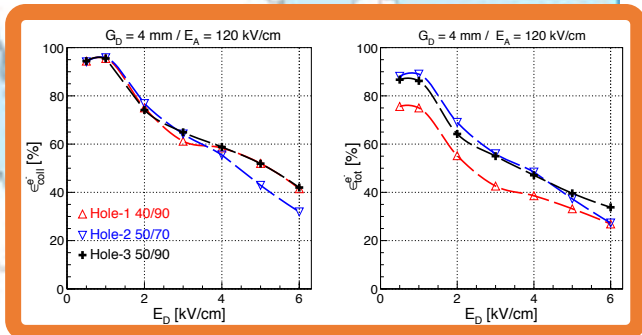
**American University
 of the Middle East**



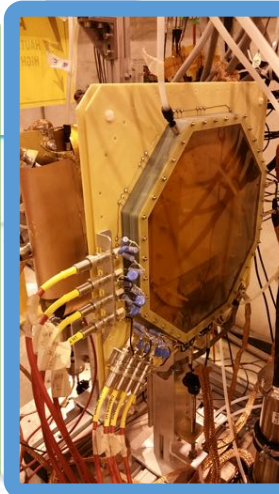
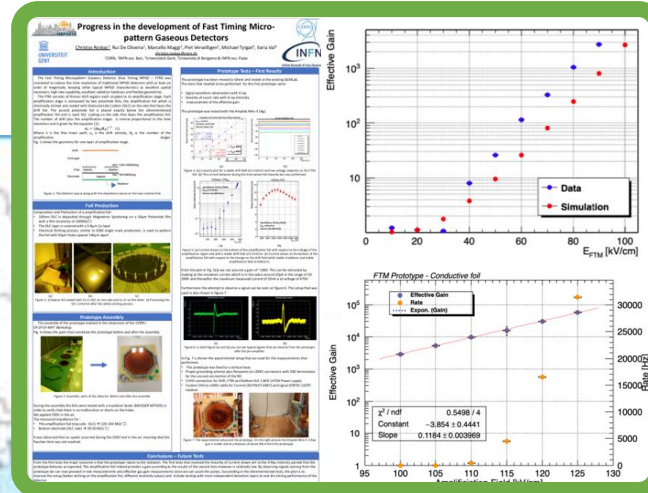
Simulations



CERN: where FTM was born:
 Rui & MPT – First FTM – Archana & Marcello



 **Universiteit Gent**
 **CERN**
 **INFN Pavia**
 **INFN Bari**
INFN Lecce

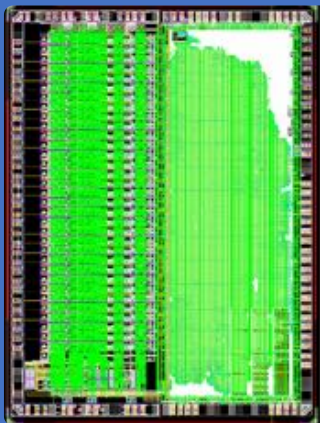


10x10 FTM Prototype Studies:
 Single Layer (Gent) – Multi Layer (Pavia)

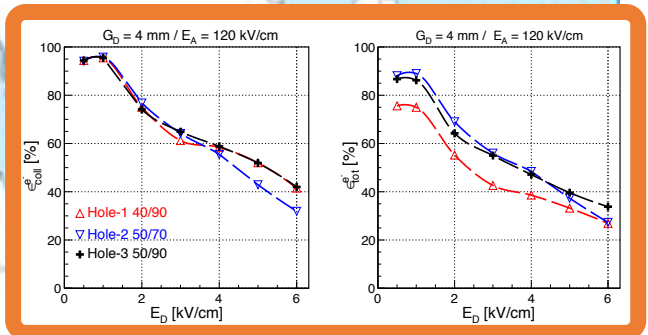
**American University
of the Middle East**



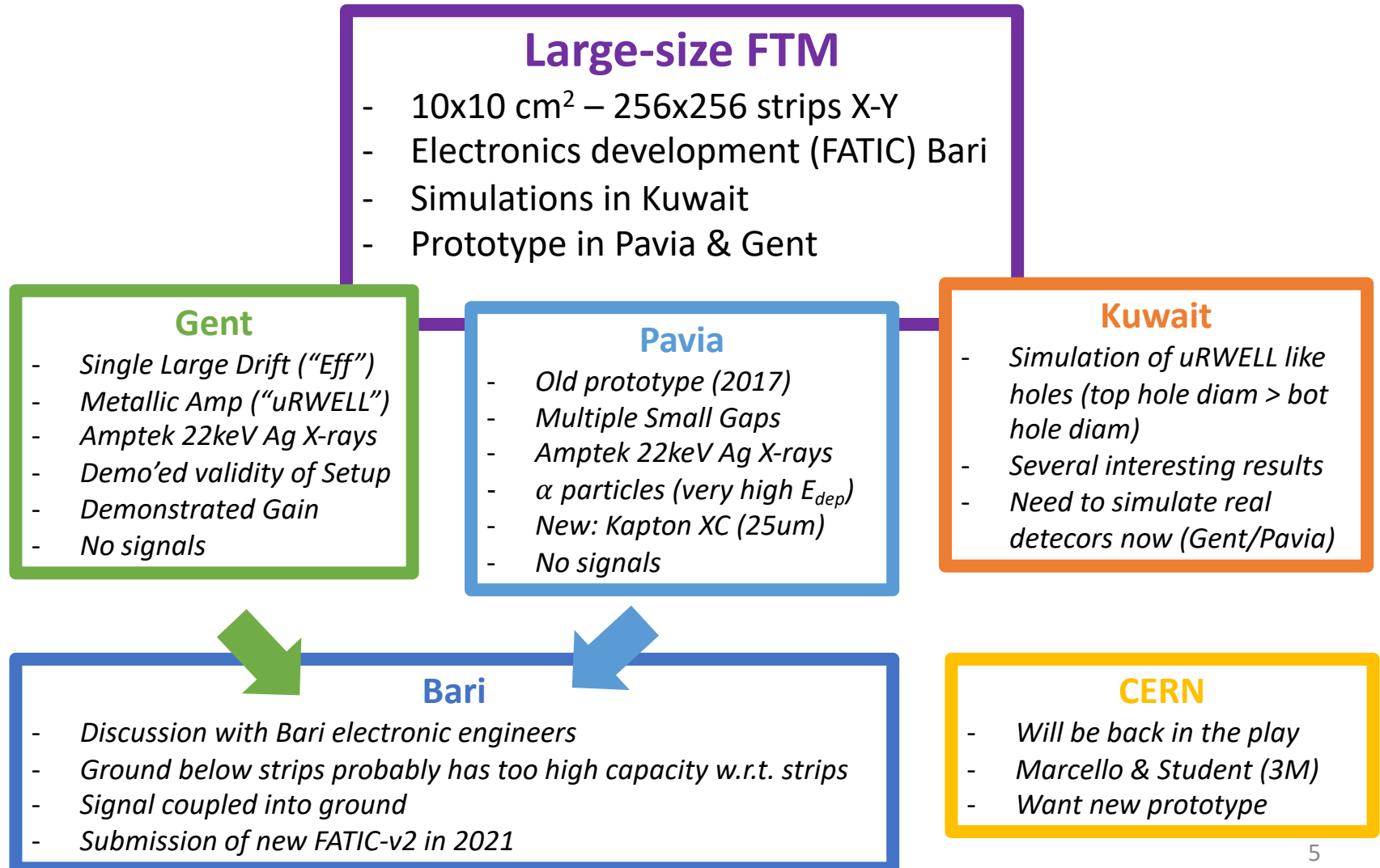
Simulations



BARI: where fire was kept alive:
 FATIC (32ch) – small FTM & Laser – DLC Deposition



Overview of the activities - I



Overview of the activities - II

Small-size FTM

- 2 cm diameter – 2 signal pads (T & B)
- Laser setup to ionize in each gap
- Demonstrate FTM-principle
- Test different DLC productions

Bari

- *Small FTM to be instrumented with "domestic DLC"*
- *Now: results with "USTC DLC"*
- *Encouraging results, but need new foils for "stability" issues*
- *DLC production through Ion Beam Deposition*
- *DLC & Cu Adhesion studies*
- *Future: study also graphene (AIDA-Innova)*

Lecce

- *DLC production through Pulsed Laser Deposition*
- *production of small-scale*
- *Need to scale up & cover with Cu to test Etching at CERN*
- *DLC Characterization (resistivity, material quality)*

CERN

- *Scratch tests to check adhesion Cu to DLC*
- *Etching of "domestic DLC"*
- *Requires good adhesion and 5x5cm² foils*

Home-made DLC probably difficult to scale-up to large size
Allowed for funding in the past years

Collaboration with solid-state scientists to understand DLC
Can give guidance to USTC on how to produce better DLC
Has put us on the chart of RD51 → AIDA-Innova

Today's agenda

- **Will limit ourself only to detector tests & detector simulation**
- **Overview of the activities so far in various sites**
 - 15' talk for each site
 - Discussion at the end
- **Discuss how to integrate the R&D on the large-size FTM**
 - New Readout-boards for Gent & Pavia
 - New Amplification Foils for Pavia
 - New prototype at CERN
 - Kuwait simulating Gent/Pavia/CERN prototypes with correct Geometry
- ***If Test-beam opportunity at CERN in 2021***
 - Probably GEM-test beam => join this effort!
 - Join with small-FTM (read by Oscilloscope + MCP-PMT)
& Large-FTM (VFAT2/3 + Turbo OR APV25 + SRS)
- ***Test-beam opportunity at CERN in 2022***
 - Small-FTM and Large FTM (FATIC-v2 + Mosaic)

Today's discussion

- **Scientific Program discussion**
 - Which measurements?
 - What time-scale?
 - Who does what?
 - Divide tasks for groups with prototype
 - Simulation task covered by Gent & Kuwait
- **Future Funding?**

Since this is the main item of this meeting, let's be brief & to-the-point in the next presentations