CPAN Network on Instrumentation and Detectors

CNID

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Scope of this meeting

- Introduction to the network proposal and initial discussion.
- Agree on the procedure to follow.

Motivation

- There is a strong and mature instrumentation and detector R&D community in Spain in the all three scientific areas covered by CPAN.

- Instrumentation is a genuine transversal activity across all the CPAN areas.

- Facilitate, and enhance the impact of, the development of cutting-edge instrumentation and detector systems in Spain aligned with the current detector R&D endeavor promoted by ECFA (DRDs) in Europe and CPAD in USA (and other areas programs).

- Similar instruments promoted in other countries, regions: USA, Germany, UK, Italy, etc.

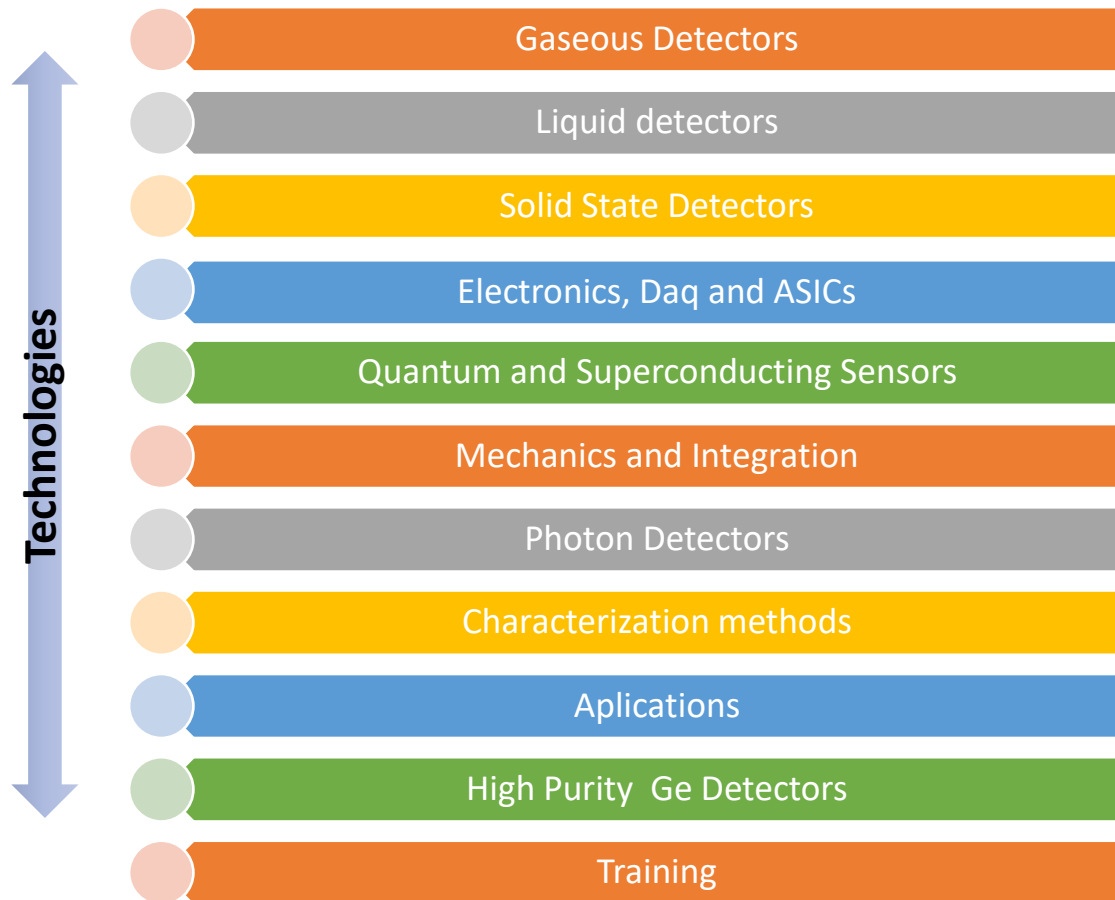# What should the goals and the means to achieve them be?

- Initially:
  1. Building a **Community of Experts** in Instrumentation and Detectors.
  2. Platform for **sharing and exchanging knowledge, technologies, practices, and research findings** in instrumentation across different fields and disciplines ➜ Annual Workshop

- In Subsequent Phases:
  3. **Promoting collaboration among groups** that may lead to joint research projects.
  4. **Capacity development**: training activities ➜ Schools, courses, and/or topical mini-workshops.
  5. **Representing the community** to influence and advise scientific leadership (likely requires legal recognition of the network or would at least be beneficial).
  6. **Recognition of excellence** ➜ Awards for students

What should you not expect?

- The Network **will not be** a funding platform.

- Do not expect to get funds via the network to carry out RD projects.

- Once the network is stablished, we will aim to become a recognised network that may get moderate funding to cover some of its networking and training activities.

Working groups (posible) topics

Instrumentation targets — Particles Physics, Astroparticles, Nuclear Physics

Technologies:
- Gaseous Detectors
- Liquid detectors
- Solid State Detectors
- Electronics, Daq and ASICs
- Quantum and Superconducting Sensors
- Mechanics and Integration
- Photon Detectors
- Characterization methods
- Aplications
- High Purity Ge Detectors
- Training

- Technology-oriented working groups.
- There should be a minimum number of groups (3) per topic to avoid a too fine granularity.
- Just a proposal to be discussed and improved (via the community consulting process, starting now).
- Good alignment with the DRDs from the ECFA roadmap.
- Off-course there would be some overlap and redundancies between working group topics.

Next steps

- Just after this meeting:
  - Drafting a brief document (one/two pages) to summarize the goals the network, to introduce it to groups not here today.
  - To launch a community survey to gather the inputs of the groups (next slide).
- Based on the survey results:
  - Decision on the working groups topics, conveners (balance and representation of all the CPAN comunities is mandatory).
- Steering team:
  - Network coordinators, deputy coordinators (to cover all the areas) and working group conveners.
  - We may have different number of working groups conveners depending of the WG topic.
  - The steering team will take care of the kick-off workshop organization.
- Preparation of the kick-off workshop:
  - Multi-day workshop around Mars 2024.
  - All plenary sessions with ample time for discussion.
  - Cost funded by the participating groups (other help is welcome).

Community Survey (to be sent via CPAN and other comminity wide mailing lists)

- Name of the Institution, research team and contact person:
  - The research team does not have to be an official recognized group in your institution but an *working unit* that could be inside a larger recognized group.
- CPAN field and working group topics of interest.
- Details about the type of activity on each working group topic.
- Related experiment or RD projects (DRD, EU program, others).
- Number of FTE involved.
- Ongoing funded projects in the last three years on this activity line.
- Other comments:
  - including proposals for WG conveners.

Back-up

network of US Detector R&D Collaborations promovido por el CPAD

RDC#	TOPIC
1	Noble Element Detectors
2	Photodetectors
3	Solid State Tracking
4	Readout and ASICs
5	Trigger and DAQ
6	Gaseous Detectors
7	Low-Background Detectors
8	Quantum and Superconducting Sensors
9	Calorimetry
10	Detector Mechanics
11	Fast Timing

DETECTOR RESEARCH AND DEVELOPMENT THEMES (DRDTs) & DETECTOR COMMUNITY THEMES (DCTs)