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The European Water Platform

University of Padova
Department of Physics and Astronomy “Galileo Galilei"

NUWA:
NUclear technologies for WAter management
Water Knowledge Europe 2017

BROKERAGE EVENT 29/30 NOVEMBER 2017 BRUSSELS

University of Padova - Physics Dep. Applied Nuclear Physics Group

University of Padova:

Among the oldest universities in the world (founded in 1222). It counts more than 60 thousands students. The department of Physics and Astronomy is one of the biggest departments in the university. It collaborates both with other national and international research institutes.

Applied Nuclear Physics Group:

Research activity: **technological application of nuclear physics** techniques

- development of nuclear detectors,
- data analysis,
- nuclear physics modelling,
- data acquisition systems.

Past experience: TRL-6 systems developments for nuclear safety, civil security and environmental monitoring. European and national projects as P.I. and work-package leaders.

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NUWA Project Idea

NUWA: NUclear technologies for WAter management

- **What**: Comprehensive solution for water resources monitoring, in order to increase the efficiency of water management.
- **How**: Integrating several technologies to address the problem from a variety of approaches (*e.g.* soil moisture measurements, weather forecasting, water consumption monitoring and economical analysis).
- **Our technological solution**: quantitative measurement of the moisture content of soil in large areas, with a single self sufficient probe. The technology employs passive nuclear detectors to monitor the natural background radiation produced by cosmic rays.

H2020 Calls: LC-SFS-19-2018-2019 Topic A RIA (Climate-smart resilient farming), SFS-30-2018-2019-220 Topic B RIA (Agri-Aqua Labs), DT-RUR-12-2018 Item 1 (ICT Innovation for agriculture - Digital Innovation Hubs for Agriculture)

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Expected Impact

- **End-users should be the key of the project**:
  their feedback will give the guidelines for the developers and will help with the definition of the common technological framework.

- **Effective communication among peers**:
  When heterogenous groups work together a main issue is the effectiveness of communication among peers. We will study and prepare a common framework, together with detailed protocols, to converge to the end-user needs and the technological requirements.

- **Technological integration**:
  When different technologies are integrated, it is of utmost importance to define and implement a coherent and common structure.

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We are looking for partners

For the calls:

LC-SFS-19-2018-2019-220 Topic A (Climate-smart resilient farming),
DT-RUR-12-2018 Item 1 (ICT Innovation - Digital Innovation Hubs for Agr.)

Technological Developers: weather forecasting, ICT developers and ICT security experts.

Field Experts: Hydrologists, water economics analysts.

End-users: farmers associations, local water management organizations and public administrations.

For the call:

SFS-30-2018-2019-220 Topic B (Agri-Aqua Labs)

Technological Developers: geneticists, biologists, ICT developers.

Field Experts: crop experts, modeling plant experts.

End-users: crop producers and public administrations.

Contact Details

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