



**WELCOME to the:**  
**Hands-on school on the production, detection and  
use of neutron beams**

**Carlos GUERRERO and Begoña FERNANDEZ**  
Universidad de Sevilla, 41012 Seville, Spain  
Centro Nacional de Aceleradores (CNA), 41092 Seville, Spain

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European  
Commission

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# Accelerator and Research reactor Infrastructures for Education and Learning

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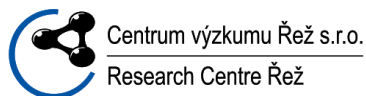
Physikalisch-Technische Bundesanstalt  
Braunschweig und Berlin



Centro de Investigaciones  
Energéticas, Medioambientales  
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Centro Nacional de Aceleradores

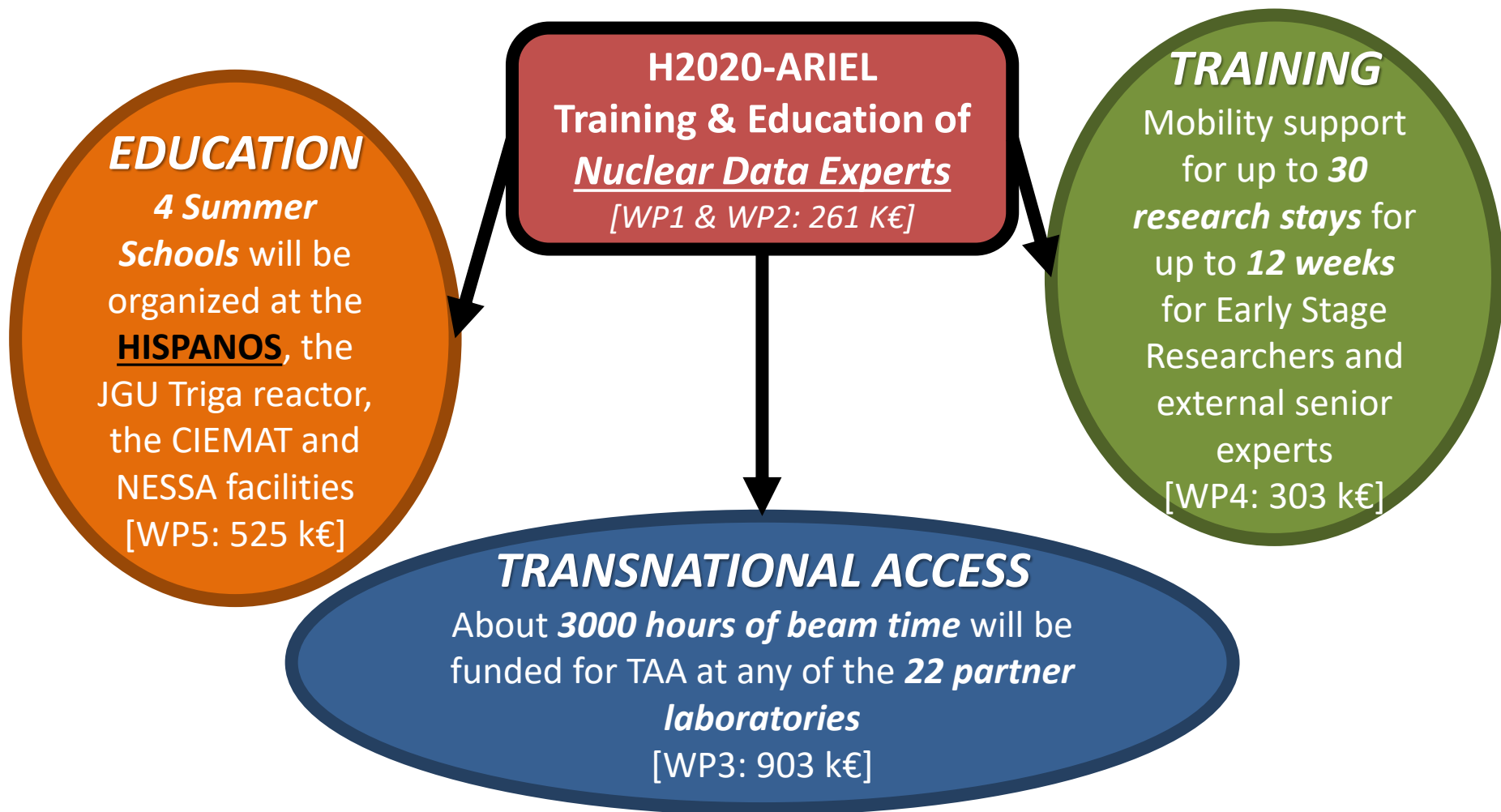


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C. Guerrero, Welcome to the Online lessons

Hands on School on production, detection and use of neutron beams, Sept 21<sup>st</sup> 2022





# Hands-On sessions

## Laboratory sessions at CNA (26-30, September) (more info. @CNA)

- Fast neutrons: Time-of-flight with a fast pulsed neutron beam and detectors providing pulse shape discrimination (B. Fernández, CNA)
- Epithermal neutrons: Neutron capture MACS measurements by activation (C. Guerrero, CNA)
- Thermal neutrons: neutron moderation and n-imaging (plus X-ray radiography) (M.A. Millán)
- Fission neutrons: study of the neutron emission from  $^{252}\text{Cf}$  with  $^3\text{He}$  detectors (A. Tarifeño, IFIC)



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# Online sessions

There are many profiles among the participants, let us give you an introduction to neutron production, detection and use (astrophysics, nuclear technology and medicine) so we that we are ready to make the most out of the HANDS-ON school. We don't want to leave anybody behind.

## ZOOM sessions (21-22, September) (45 min. + 10 min. Q&A)

- Interaction of neutrons with matter (J.L. Taín, IFIC)
- Principles and examples of neutron production (C. Guerrero, CNA)
- Principles and examples of neutron detection (D. Cano-Ott, CIEMAT)
- The role of neutrons in astrophysics and neutron beam experiments (C. Domingo, IFIC)
- The role of neutrons in nuclear technology and neutron beam experiments (F. Álvarez & V. Bécares, CIEMAT + C. Guerrero, CNA)
- The role of neutrons in medicine and neutron beam experiments (I. Porras, UGR)

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Thank you for joining &  
Welcome to the H2020-ARIEL  
HISPANOS School