

## Neutrons and Photons Elevating Worldwide Science (NEPHEWS) – Trans-National Access For Excellent Curiosity Driven Research

NEPHEWS –the Neutrons and Photons Elevating Worldwide Science –is an Horizon Europe Co-funded project-based access program targeting new and non-expert users and user communities, driven by the neutron and photon European user communities [1]. It delivers access to the world-class collective of Europe's premiere open advanced neutron, synchrotron and free-electron laser complementary research infrastructures (RI), to promote curiosity driven excellence in research. The bottom-up User-to-User-oriented approach aims to build an integrated European RI landscape involving LEAPS [2] and LENS [3] consortia and their European scientific user communities. New and non-expert users receive in-depth hands-on expert training in twinning research experiments with expert-users, complimented with support in virtual access, workshops, schools and proposal writing. All build expertise, foster collaborations, and widen user access across the European Research Area. NEPHEWS specifically engages user and scientific communities of selected priority countries –of which Romania, Serbia and Greece are among those selected –via outreach visits, priority access, and supporting political dialogue of national user communities with national funding authorities. The simultaneous effort for neutrons, free electron lasers and synchrotrons across Europe reduces the access barrier for using these techniques, sustains the user communities and helps to provide knowledge transfer between the user communities, to industry and the wider society researchers of neutron and photon sources worldwide is provided. Specific reference and statistics of the participation by Romanian, Serbian and Greek researchers in worldwide neutron and photon facilities will be highlighted [4] along with opportunities for participation in NEPHEWS programmes for all Balkan researchers.

[1] NEPHEWS project webpage, <https://beamtime.eu/>

[2] LEAPS –the League of European Accelerator-based Photon Sources –<https://www.leaps-initiative.eu/>

[3] LENS –the League of Advanced European Neutron Sources –<https://lens-initiative.org/>

[4] Stankovski, M and Khotbehsara, F. A. P, “What is the size of the global light- and neutron source research communities?”, Lund Institute of Advanced Neutron and X-ray Science, May 2024, <https://www.linxs.se/news/article-series-i/size-of-the-global-light-and-neutron-source-communities>

**Primary author:** MCGUINNESS, Cormac (European Synchrotron and Free Electron Laser User Organisation (ESUO) / Trinity College Dublin, Ireland)

**Co-authors:** Prof. SCHNEIDEWIND, Astrid (European Neutron Scattering Association (ENSA) / Jülich Centre for Neutron Science); Prof. MURPHY, Bridget (European Synchrotron and Free Electron Laser User Organisation (ESUO) / Kiel University); Prof. DELEDDA, Stefano (European Neutron Scattering Association (ENSA) / Institute for Energy Technology (IFE)); Dr GEORGIEV, Rosen (Trinity College Dublin); Mr PIWOWARCZYK, Piotr (SOLEIL National Synchrotron Radiation Centre); Dr KHOTBEHSARA, Farhad (Lund Institute of Advanced Neutron and X-ray Science (LINXS)); Prof. FORSYTH, Trevor (Lund Institute of Advanced Neutron and X-ray Science (LINXS)); Dr MARTIN STANKOVSKI CLARK, Martin (Lund Institute of Advanced Neutron and X-ray Science (LINXS))

**Presenter:** MCGUINNESS, Cormac (European Synchrotron and Free Electron Laser User Organisation (ESUO) / Trinity College Dublin, Ireland)