UK Nuclear Activity

October 2026 Issue 159

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Newsletter archive: http://npg.dl.ac.uk/OutreachNewsletter/index.html

Nuclear Physics Outreach Poster: Inside the Atom

Support for ECR travel and other research expenses is available from the IoP.

Support is typically at the level of about £300. Applications typically require the completion of a short form, and are reviewed periodically, so try to apply well in advance.

IoP Support and grants: https://www.iop.org/about/support-grants

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1. Nuclear Physics Publications for October*

If you are publishing a paper that you think would be of media value, please contact Wendy Ellison, STFC Press Officer. She can help with press releases and publicity. If you get in touch with her before publication, she can also get material ready in advance for the day of publication.

Phys. Rev. Lett. **137** 162701 (https://doi.org/10.1103/tclf-b44m)
^{16}O(p,γ)^{17}F Reaction and the C and O Isotopic Ratios in Red Giant Branch Stars
D. Robb *et al.*
Published 14 October 2026

Phys. Lett. B **882** 140998 (2026) (https://doi.org/10.1016/j.physletb.2026.140998)
^{14}C resonant states revisited
A. Di Pietro *et al.*
Published 28 September 2026

Edited by Jack Henderson, IOP Nuclear Physics Group Committee
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Phys. Lett. B **882** 141053 (2026) (https://doi.org/10.1016/j.physletb.2026.141053)
Density-driven α-particle clustering in neutron-rich oxygen isotopes
M. Davies *et al.*
Published 12 October 2026

Phys. Rev. C **114** 044318 (2026) (https://doi.org/10.1103/z145-rfy7) [Editor's Suggestion]
Direct transfer to ^{46,48}K as a survey of the $\pi(s_{1/2})$−$\nu(sdpf)$ interaction
C. J. Paxman *et al.*
Published 15 October 2026

Phys. Rev. C **114** 045203 (2026) (https://doi.org/10.1103/smhf-nl99) [Editor's Suggestion]
Measurement of the Gerasimov-Drell-Hearn integrand for the proton and deuteron from 200 to 1400 MeV
P. Pedroni *et al.*
Published 01 October 2026

Phys. Rev. C **114** 044003 (2026) (https://doi.org/10.1103/k3z6-gvpd)
Three-nucleon dynamics in dp breakup collisions at 190 MeV/nucleon using the WASA detector at COSY-Jülich
P. Adlarson *et al.*
Published 16 October 2026

Phys. Rev. C **114** 044302 (2026) (https://doi.org/10.1103/sbnc-hccd)
Structure of the neutron-rich N=126 isotones: A shell model analysis
Z. Podolyak and C. J. Wilson
Published 01 October 2026

Phys. Rev. C **114** 044328 (2026) (https://doi.org/10.1103/r54y-vlpx)
Isomeric states in odd-A tantalum isotopes with N=106–116
A. Kardan, P. M. Walker, A. K. Jain
Published 20 October 2026

Phys. Rev. C **114** 044609 (2026) (https://doi.org/10.1103/8ptt-pvc8)
Angular momentum removal by neutrons from fission fragments
D. Gjestvang *et al.*
Published 08 October 2026

Phys. Rev. C **114** 044622 (2026) (https://doi.org/10.1103/p27s-fp1j)
Production cross sections of neutron-rich nuclides near the N=126 neutron-shell closure from 1000 MeV/u ^{208}Pb on ^{9}Be
S. K. Singh *et al.*
Published 16 October 2026

Fusion Engineering and Design **233** 116094 (2026) (https://doi.org/10.1016/j.fusengdes.2026.116094)
Dosimetry foil characterisation of a new lithium-target fast neutron source
L. Butt *et al.*
Published 11 October 2026

Symmetry **18** 1716 (2026) (https://doi.org/10.3390/sym18101716)
Aspects of Symmetry in Nuclear Quantum Computing Variational Algorithms
P. Stevenson et al.
Published 15 Oct 2026

Chin. Phys. C **50** 094005 (2026) (https://doi.org/10.1088/1674-1137/ae84ab)
High-spin states of the semimagic nucleus ^{151}Tm
X. H. Yu *et al.*
Published 01 July 2026

*Also includes missed publications from previous months

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2. News to Report

a. PLANET Nuclear DFA Induction, 14-16 October 2026, York

The induction for the first cohort of PhD students on the PLANET Nuclear DFA took place at the Guildhall, University of York. Physics-Led Applications of Nuclear Engineering Technology (PLANET) is funded by UKRI to develop the next generation of nuclear industry experts as part of the Nuclear Skills programme.

17 students from the Universities of Cambridge, Edinburgh, Lancaster, Surrey and York came together for the first time to learn about the history of nuclear energy, nuclear theory, risk analysis at Hartlepool Power Station, outreach and public engagement. Most importantly, the cohort spent time getting to know each other, discovering the diverse range of experience and knowledge they hold, and building a supportive network that will take them through their PhD studies and beyond.



Paul Howarth CBE FREng, President of the Institute of Physics, was guest of honour at the induction dinner, and gave an inspirational talk, highlighting the importance of physics to society and the many and varied career opportunities awaiting PLANET students. PLANET will train 80 new PhD students over the next seven years.
www.planet-dfa.ac.uk

Contribution from the PLANET team

b. Ernest Rutherford Prize: Professor Zsolt Podolyak

Professor Zsolt Podolyak from the University of Surrey was awarded the 2026 Ernest Rutherford Medal and Prize from the Institute of Physics. Professor Podolyak was awarded the prize for seminal discoveries in nuclear structure physics that have driven a new understanding of shell evolution at extreme proton-to-neutron ratios and inspirational leadership of international experimental collaborations using radioactive-ion beams.

More details can be found here.

Contribution from Jack Henderson, University of Surrey

c. UK Micropattern Gaseous Detector Workshop

On the 8th October, the Institute of Physics hosted the UK Micropattern Gaseous Detector Workshop. This one-day event brought together a variety of research groups who utilise gas-based detectors for Nuclear Structure and Astrophysics, High Energy Physics, Neutron and Muon Science, and Dark Matter Physics. As well as invited UK contributions covering the status of each of these topics and international presenters from LMU Munich and CERN, the workshop finished with an open discussion focusing on future development and needs. A subsequent event is planned for next year in joint collaboration with the HEPP and NP IOP groups which will also cover aspects of readout electronics development including detectors that aren't gas based.

This workshop received the kind support of the IOP NP group.

Contribution from Jack Bishop, University of Birmingham

d. Liverpool students launch the Chadwick Institute Young Nuclear Network

PhD researchers at the University of Liverpool have founded the Chadwick Institute Young Nuclear Network (CIYNN). It is a student-led community that connects students, postdocs and other early-career researchers in nuclear physics and related fields.

The network starts at a time of fast growth. new UKRI doctoral programmes, funded through a £65.6M nuclear skills call and match-funded by industry, started in 2026. For example, RAPTOR (Radiation Protection, Nuclear Safety and Environmental Sustainability) is led by the University of Liverpool, working with Manchester's Dalton Nuclear Institute and the universities of Surrey, Suffolk and Lancaster. RAPTOR will train 80 doctoral researchers alongside partners from the nuclear energy and security sectors, including the radiation-detection company Mirion Technologies, which is supporting three studentships. SATURN 2 brings together seven universities, including the Universities of Liverpool and Manchester, and 22 industry partners, and will train around 50 PhD and EngD students a year.

CIYNN aims to give early-career researchers and students a share in that collaboration. The network is based in Liverpool's Chadwick Institute. It aims to build links between universities, so that young people can share ideas, skills and opportunities beyond their group. It is also working with professional membership bodies and with industry, giving members a clearer view of careers in and beyond academia and a direct line to the organisations that shape the field.



"Networks like this are vital for strengthening collaboration between academia and industry, and for building innovation and leadership in the next generation of nuclear professionals" Marcus Turner-Wood, PhD student in Liverpool's Nuclear Physics Cluster.

The network welcomes early-career researchers from any UK institution, as well as organisations interested in working with it. To get involved, contact mturnw@liverpool.ac.uk.

Contribution from Marcus Turner-Wood, University of Liverpool

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3. Outreach Activity

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4. Media Interactions

a. Isomer discoveries - Nuclear Physics News

Professor Zsolt Podolyák co-authored an article in Nuclear Physics News alongside Christoph Scheidenberger of GSI, discussing the need for a continued international effort towards isomer discoveries. The article drew on a recent study by Thoennessen and Chen, in which the discoveries of the 1917 known isomers with half-lives longer than 100 ns were documented.

Contribution from Jack Henderson, University of Surrey