

Catalin Matei, PhD

PUBLICATIONS (ISI JOURNALS)

1. Photonuclear reactions with charged particle emission for nuclear astrophysics studies, C.R. Brune, C. **Matei****, S.D. Pain, R. Smith, **Eur. Phys. J. A** **59**, (2023) **165**
2. Proton branching ratios in 22Mg for X-ray bursts, S.H Kim, K.Y Chae, D.W Bardayan, J.C Blackmon, K.A Chipps, R Hatarik, K.L Jones, M.J Kim, R.L Kozub, JF Liang, C **Matei**, B.H Moazen, C.D Nesaraja, P..D O'Malley, S.D Pain, Michael S Smith, **Eur. Phys. J. A** **59**, (2023) **112**
3. Direct measurement of the $^{19}\text{F}(p,\alpha)^{16}\text{O}$ reaction at $E_{\text{cm}} = 0.4\text{--}0.9$ MeV using the LHASA detector array, G.L. Guardo, T. Petrusse, D. Lattuada, M La Cognata, D.L. Balabanski, E Açıksöz, L Acosta, L Capponi, D Carbone, S Cherubini, D Choudhury, G D'Agata, A Di Pietro, P Figuera, M Gulino, A.I. Kilik, M La Commara, L Lamia, C **Matei**, S Palmerini, R.G. Pizzone, G.G. Rapisarda, S Romano, ML Sergi, P-A Söderström, R Spartà, A Tumino, S Viñals, **Eur. Phys. J. A** **59**, (2023) **65**
4. Neutron induced fission cross section measurements of ^{240}Pu and ^{242}Pu relative to the neutron-proton scattering cross section at 2.5 and 14.8 MeV, F. Belloni, R. Eykens, J. Heyse, C. **Matei**, A. Moens, R. Nolte, A. J. M. Plompen, S. Richter, G. Sibbens, D. Vanleeuw and R. Wynants. **Eur. Phys. J. A** **58** (2022) **227**
5. Feasibility of studying astrophysically important charged-particle emission with the variable energy gamma-ray system at the Extreme Light Infrastructure–Nuclear Physics facility, H. Y. Lan, W. Luo, Y. Xu, D. L. Balabanski, G. L. Guardo, M. La Cognata, D. Lattuada, C. **Matei**, R. G. Pizzone, T. Rauscher, J. L. Zhou, **Phys. Rev. C** **105**, **044618** (2022)
6. ELIGANT-GN — ELI Gamma Above Neutron Threshold: The Gamma-Neutron setup, P-A Söderström, E Açıksöz, DL Balabanski, F Camera, L Capponi, Gh Ciocan, M Cuciuc, DM Filipescu, I Gheorghe, T Glodariu, J Kaur, M Krzysiek, C **Matei**, T Roman, A Rotaru, AB Şerban, A State, H Utsunomiya, V Vasilca, **Nucl. Instr. Meth. A** **1027**, **166171** (2022)
7. The Status and Future of Direct Nuclear Reaction Measurements for Stellar Burning, M. Aliotta, R. Buompane, M. Couder, A. Couture, R.J. deBoer, A. Formicola, L. Gialanella, J. Glorius, G. Imbriani, M. Junker, C. Langer, A. Lennarz, Y. Litvinov, W.-P. Liu, M. Lugaro, C. **Matei****, Z. Meisel, L. Piersanti, R. Reifarh, D. Robertson, A. Simon, O. Straniero, A. Tumino, M. Wiescher, Y. Xu, **J. Phys. G: Nucl. Part. Phys.** **49** (1) **010501** (2021)
8. The $^{27}\text{Al}(p,\alpha)^{24}\text{Mg}$ reaction at astrophysical energies studied by means of the Trojan Horse Method applied to the $^2\text{H}(^{27}\text{Al},\alpha+^{24}\text{Mg})\text{n}$ reaction, S. Palmerini, M. La Cognata, F. Hammache, L. Acosta, R. Alba, V. Burjan, E. Chávez, S. Cherubini, A. Cvetinovic, G. D'Agata, N. de Séréville, A. Di Pietro, P. Figuera, Z. Fülöp, K. Gaitán De Los Rios, G. L. Guardo, M. Gulino, S. Hayakawa, G. G. Kiss, M. La Commara, L. Lamia, C. Maiolino, G. Manicó, C. **Matei**, M. Mazzocco, J. Mrazek, T. Parascandolo, T. Petrusse, D. Pierroutsakou, R. G. Pizzone, G. G. Rapisarda, S. Romano, D. Santonocito, M. L. Sergi, R. Spartà, A. Tumino, H. Yamaguchi, **Eur. Phys. J. Plus** **136** (2021) **898**
9. Characterization of a plutonium-beryllium neutron source, P-A Söderström, C. **Matei****, L. Capponi, E. Açıksöz, D.L. Balabanski, I.-O. Mitu, **Applied Radiation and Isotopes** **167**, **109441** (2021)
10. Electromagnetic character of the competitive $\gamma\gamma/\gamma$ -decay from $^{137\text{m}}\text{Ba}$, P-A Söderström, L. Capponi, E. Açıksöz, T. Otsuka, N. Tsoneva, Y. Tsunoda, D.L. Balabanski, N. Pietralla, G.L. Guardo, D. Lattuada, H. Lenske, C. **Matei**, D. Nichita, A. Pappalardo, T. Petrusse, **Nature Communications** **11**, **3242** (2020)
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12. Unfolding of sparse high-energy γ -ray spectra from LaBr₃:Ce detectors, P.-A. Söderström, L. Capponi, V. Iancu, D. Lattuada, A. Pappalardo, G.V. Turturica, E. Açiksöz, D.L. Balabanski, P. Constantin, G.L. Guardo, M. Ilie, S. Ilie, C. Matei, D. Nichita, T. Petruse, and A. Spataru, **J. Instr.** **14**, T11007 (2019)
13. Source commissioning of the ELIGANT-GG setup for γ -ray coincidence measurements at ELI-NP, P.-A. Söderström, L. Capponi, E. Açiksöz, G. L. Guardo, D. Lattuada, C. Matei, D. Nichita, A. Pappalardo, T. Petruse, and G. V. Turturica, **Rom. Rep. Phys.** **71**, 206 (2019)
14. Investigation of Compton Scattering for Gamma Beam Intensity Measurements and Perspectives at ELI-NP, G.V. Turturica, C. Matei**, A. Pappalardo, D.L. Balabanski, S. Chesnevskaya, V. Iancu, C.A. Ur, H.J. Karwowski, K.A. Chipps, M.T. Febraro, S.D. Pain, D. Walter, C.Aa. Diget, J. Frost-Schenk, M. Munch, G.L. Guardo, M. La Cognata, R.G. Pizzone, G.G. Rapisarda, K.Y. Chae, M.J. Kim, M.S. Kwag, **Nucl. Instr. Meth.** **A921**, 27 (2019)
15. Photodisintegration reaction rate involving charged particles: systematic uncertainty from nuclear optical model potential and experimental solution based on ELI-NP, H.Y. Lan, Y. Xu, W. Luo, D.L. Balabanski, S. Goriely, C. Matei, A. Anzalone, S. Chesnevskaya, G.L. Guardo, M. La Cognata, D. Lattuada, R.G. Pizzone, S. Romano, C. Spitaleri, A. Taffara, A. Tumino, and Z.C. Zhu, **Phys. Rev. C** **98**, 054601 (2018)
16. Extreme Light Infrastructure - Nuclear Physics pillar (ELI-NP): new horizons in physics with high power lasers and brilliant gamma beams, S. Gales, K.A. Tanaka, D.L. Balabanski, F. Negoita, D. Stutman, O. Tesileanu, C.A. Ur, D. Ursescu, S. Ataman, M.O. Cernaianu, I. Dancus, B. Diaconescu, N. Djourellov, D. Filipescu, P. Ghenuche, C. Matei, K. Seto, L. D'Alessi, M. Zeng, N. V. Zamfir **Reports of Progress in Physics** **81** (9) 094301 (2018)
17. Performance Studies of X3 Silicon Detectors for the Future ELISSA Array at ELI-NP, S. Chesnevskaya, D.L. Balabanski, D. Choudhury, P. Constantin, D.M. Filipescu, D.G. Ghita, G.L. Guardo, D. Lattuada, C. Matei**, A. Rotaru, A. State, **J. Instr.** **13**, T05006 (2018)
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25. Gamma above the neutron threshold experiments at ELI-NP, F. Camera, H. Utsuomiya, V. Varlamov, D. Filipescu, V. Baran, A. Bracco, G. Colo, I. Gheorghe, T. Glodariu, **C. Matei**, O. Wieland, **Rom. Rep. Phys. 68, S539 (2016)**
26. Charged particle detection at ELI-NP”, O. Tesileanu, M. Gai, A. Anzalone, C. Balan, J.S. Bihalowicz, M. Cwiok, W. Dominik, S. Gales, D.G. Ghita, Z. Janas, D.P. Kendellen, M. La Cognata, **C. Matei**, K. Mikszuta, C. Petcu, M. Pfutzner, T. Matulewicz, C. Mazzocchi, C. Spitalieri, **Rom. Rep. Phys. 68, S699 (2016)**
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35. Direct studies of low-energy resonances in $^{31}\text{P}(p,a)^{28}\text{Si}$ and $^{35}\text{Cl}(p,a)^{36}\text{Ar}$, B.H. Moazen, **C. Matei****, D.W. Bardayan, J.C. Blackmon, K.Y. Chae, K.A. Chipps, R. Hatarik, K.L. Jones, R.L. Kozub, P.D. O’Malley, C.D. Nesaraja, S.D. Pain, W.A. Peters, S.T. Pittman, J.F. Shriner, and M.S. Smith, **Eur. Phys. J. A 47, 66 (2011)**
36. Neutron detector characterization for SCINTIA array, **C. Matei**, F.-J. Hamsch, and S. Oberstedt, **IEEE Transactions on Nuclear Science, 6172863, (2011)**
37. Comment on “Properties of ^{26}Mg and ^{26}Si in the sd shell model and the determination of the $^{25}\text{Al}(p,g)^{26}\text{Si}$ reaction rate, K.A. Chipps, D.W. Bardayan, K.Y. Chae, J.A. Cizewski, R.L. Kozub, J.F. Liang, **C. Matei**, P.D. O’Malley, S.D. Pain, W.A. Peters, S.T. Pittman, M.S. Smith, **Phys. Rev. C 84, 059801 (2011)**

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44. First Direct Measurement of the $^{17}\text{F}(p,g)^{18}\text{Ne}$ Cross Section, K.A. Chipps, D.W. Bardayan, J.C. Blackmon, K.Y. Chae, U. Greife, R. Hatarik, R.L. Kozub, **C. Matei**, B.H. Moazen, C.D. Nesaraja, S.D. Pain, W.A. Peters, S.T. Pittman, J.F. Shriner, Jr., and M.S. Smith, **Phys. Rev. Lett.** **102**, 152502 (2009)
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47. Measurement of Branching Ratios from the 7.12-MeV State in ^{16}O and the $^{12}\text{C}(a,g)^{16}\text{O}$ Reaction Cross Section, **C. Matei****, C.R. Brune, and T.N. Massey, **Phys. Rev. C** **78**, 065801 (2008)
48. Measurement of the cascade transition via the first excited state of ^{16}O in the $^{12}\text{C}(a,g)^{16}\text{O}$ reaction, and its S factor in stellar helium burning, **C. Matei****, L. Buchmann, W.R. Hannes, D.A. Hutcheon, C. Ruiz, C. R. Brune, J. Caggiano, A.A. Chen, J. D'Auria, A. Laird, M. Lamey, Z.H. Li, W.P. Liu, A. Olin, D. Ottewell, J. Pearson, G. Ruprecht, M. Trinczek, C. Vockenhuber, and C. Wrede, **Phys. Rev. Lett.** **97**, 242503 (2006)
49. Branching ratio measurements of the 7.12-MeV state in ^{16}O , **C. Matei**** and C. R. Brune, **Nucl. Phys.** **A578**, 403c (2005)

**** First author or Corresponding author / Major contribution**

INVITED TALKS / SEMINARS

1. “Nuclear Astrophysics with Gamma Beams at ELI-NP”, C2R2 Seminar, South Korea, February 24th, 2022
2. "Mono-energetic γ -ray facilities and nuclear astrophysics", International Research Network for Nuclear Astrophysics (IReNA) Virtual Workshop on stellar burning, June 24th, 2020
3. “The Path to Accurate Measurements with Gamma Beams”, Nuclear Physics in Stellar Explosions 2018, Debrecen, Hungary, 13th September 2018
4. “Neutron Detection for Monitoring Gamma Beams at ELI-NP”, Neutron Users Club 2017, National Physical Laboratory, Teddington, UK, 24th October 2017
5. “Nuclear Astrophysics with Gamma Beams at ELI-NP”, 9th European Summer School on Experimental Nuclear Astrophysics, Santa Tecla, Italy, 20th September 2017
6. “Nuclear Physics Experiments with Gamma Beams at ELI-NP”, Turkish Physical Society 33rd International Physics Congress – TPS33, Bodrum, Turkey, 7th September 2017
7. “Gamma Beam Diagnostics and Experiments at ELI-NP”, NIF Group Seminar, Nuclear and Chemistry Division, Lawrence Livermore National Laboratory, Livermore, CA, 25th October 2016
8. “ELI-NP Nuclear Physics and Applications with High-Brilliance Monochromatic Gamma Beam”, ELI and HILASE Summer School, Prague, Czech Republic, 25th August 2016
9. “From Big Bang to Stellar Helium Burning at ELI-NP”, 9th International Balkan School on Nuclear Physics, Constanta, Romania, 15th July 2016
10. “How to Prepare an Experiment using the Gamma Beam System at ELI-NP”, Carpathian Summer School of Physics 2016, Sinaia, Romania, 1st July 2016
11. “Nuclear Astrophysics Measurements with ELISSA at ELI-NP”, Nuclear Physics Group Seminar, University of York, York, United Kingdom, 8th March 2016
12. “ELI-NP: Gamma Beam System and Experiments”, Neutron Physics Group Seminar, Nuclear Physics Institute, Rez, Czech Republic, 28th January 2016
13. “Stellar Helium Burning: Precision Nuclear Astrophysics?”, Nuclear Astrophysics Workshop, Sungkyunkwan University, Suwon, South Korea, October 2013
14. “National Physical Laboratory and the Neutron Metrology Group”, Korea Research Institute for Science and Standards, Daejeon, South Korea, October 2013
15. “R-matrix analysis of the $^{12}\text{C}(\text{a},\text{g})^{16}\text{O}$ reaction”, Nuclear Physics Group Seminar, University of Tennessee, Knoxville, TN, February 2009
16. “VANDLE - Neutron Detector Array for Nuclear Reactions and Decay Studies”, Stewardship Science Workshop, Lawrence Livermore National Laboratory, Livermore, CA, October 2008.
17. “Development of a Versatile Array for Neutron Detection”, Stewardship Science Workshop, Los Alamos National Laboratory, Los Alamos, NM, October 2007.
18. “New measurements of the $^{12}\text{C}(\text{a},\text{g})^{16}\text{O}$ reaction”, Nuclear Physics Group Seminar, Argonne National Laboratory, Argonne, June 2006
19. “New measurements of the $^{12}\text{C}(\text{a},\text{g})^{16}\text{O}$ reaction”, Nuclear Physics Group Seminar, KU Leuven, Leuven, June 2006
20. “New measurements of the $^{12}\text{C}(\text{a},\text{g})^{16}\text{O}$ reaction”, Nuclear Astrophysics Group Seminar, Oak Ridge National Laboratory, Oak Ridge, May 2006
21. “New measurements of the $^{12}\text{C}(\text{a},\text{g})^{16}\text{O}$ reaction”, TUNL Seminar, Duke University, Durham, March 2006

RESEARCH PROPOSALS / FUNDED PROJECTS (PI)

1. “Expanding Big Bang and p-process nucleosynthesis understanding by using gamma-ray beams”, PN-III-P4-PCE-2021-1014, 2022 – awarded €235000
2. "Towards accurate cross section measurements by developing new methods for characterisation of the γ -ray beam at ELI-NP", **PN III: P5/Subprogram 5.1/ELI-RO**, 2020 – awarded €145000
3. “ ${}^7\text{Li}(g, t){}^4\text{He}$ below 6 MeV”, High Intensity Gamma Source, USA, approved by PAC 2019
4. “Measurement of the photo-fission cross section for U-238 between 8 and 16 MeV”, Helmholtz-Zentrum Dresden-Rossendorf, approved by PAC 2018
5. “ ${}^7\text{Li}(g, t){}^4\text{He}$ above 4 MeV”, High Intensity Gamma Source, USA, approved by PAC 2016
6. “Neutron detectors testing and characterization for gamma beam monitoring and experiments at ELI-NP”, European Commission – Joint Research Centre, Institute for Reference Materials and Measurements, Belgium, approved and funded by PAC 2015
7. “Portable fast-neutron spectrometer”, National Measurement Office, UK, 2013 – awarded £211000
8. “Measurement of the 6.92-MeV transition in ${}^{16}\text{O}$ and the ${}^{12}\text{C}(a, g){}^{16}\text{O}$ Reaction Cross Section”, Oak Ridge National Laboratory, TN, USA, approved by PAC 2009

PUBLICATIONS (CONFERENCE PROCEEDINGS)

1. “Preliminary results for the ${}^{19}\text{F}(p, \alpha){}^{16}\text{O}$ reaction cross section measured at INFN-LNS”, T Petrusel, G. L. Guardo, M. La Cognata, D. Lattuada, C. Spitaleri, D. L. Balabanski, E. Agiksoz, L. Acosta, L. Capponi, D. Carbone, S. Cherubini, D. Choudhury, G. D’Agata, A. Di Pietro, P. Figuera, M. Gulino, A. I. Kilik, M. La Commara, L. Lamia, C. Matei, S. Palmerini, R. G. Pizzone, S. Romano, P.-A. Soderstrom, R. Sparta, A. Tumino and S. Vinales Onses, EPJ Web of Conferences 227, 02009 (2020) (6p)
2. “Calibration of detectors for studying the ${}^{19}\text{F}(p, \alpha){}^{16}\text{O}$ reaction at astrophysical energies via the Trojan Horse Method”, T. Petrusel, G. L. Guardo, I. Indelicato, M. La Cognata, C. Matei, D. Balabanski, B. Becherini, S. Cherubini, M. Gulino, S. Hayakawa, L. Lamia, D. Lattuada, R. G. Pizzone, G. G. Rapisarda, S. Romano, C. Spitaleri, O. Trippella, S. Palmerini, and A. Tumino, AIP Conference Proceedings 2076, 060005 (2019) (5p)
3. “Photodisintegration reactions for nuclear astrophysics studies at ELI-NP”, **C. Matei**, D. Balabanski, D.M. Filipescu, O. Tesileanu, Journal of Physics: Conference Series 940 012025 (2018) (4p)
4. “A Geant4-based Monte Carlo Tool for Nuclear Astrophysics”, D Lattuada, M La Cognata, A Anzalone, DL Balabanski, S Chesnevskaya, M Costa, V Crucillà, GL Guardo, M Gulino, C Matei, RG Pizzone, S Romano, C Spitaleri, A Tumino, Y Xu, EPJ Web of Conferences 184, 02008 (2018) (3p)
5. “Development of the ELISSA array: prototype testing at Laboratori Nazionali del Sud”, GL Guardo, A Anzalone, D Balabanski, S Chesnevskaya, W Crucillà, D Filipescu, M Gulino, M La Cognata, D Lattuada, C Matei, RG Pizzone, GG Rapisarda, S Romano, C Spitaleri, A Taffara, A Tumino, Y Xu, EPJ Web of Conferences 184, 02006 (2018) (3p)
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10. "Neutron induced fission cross section measurement of ^{240}Pu and ^{242}Pu ", F. Belloni, R. Eykens, J. Heyse, **C. Matei**, A. Moens, R. Nolte, A.J.M. Plompen, S. Richter, G. Sibbens, D. Vanleeuw, and R. Wynants, EPJ Web of Conferences 146 04062 (2017) (4p)
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12. "Brilliant gamma beams for industrial applications: new opportunities, new challenges", V. Iancu, G. Suliman, G.V. Turturica, M. Iovea, I. Daito, H. Ohgaki, **C. Matei**, C.A. Ur, D.L. Balabanski, Journal of Physics: Conference Series 763, 012003 (2016) (6p)
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14. "Prompt fission neutron emission: Problems and challenges", F.-J. Hamsch, T. Brys, T. Gamboni, W. Geerts, A. Göök, **C. Matei**, S. Oberstedt and M. Vidali, EPJ Web of Conferences 62, 02001 (2013) (5p)
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16. "Direct measurements of (p,g) cross sections at astrophysical energies using radioactive beams and the Daresbury Recoil Separator", D.W. Bardayan, K.A. Chipps, R.P. Fitzgerald, J.C. Blackmon, K.Y. Chae, A.E. Champagne, U. Greife, R. Hatarik, R.L. Kozub, **C. Matei**, B.H. Moazen, C.D. Nesaraja, S.D. Pain, W.A. Peters, S.T. Pittman, J.F. Shriner, Jr., M.S. Smith, Proceedings of The Eleventh International Symposium on Nuclei in the Cosmos, PoS (NIC-XI) 202 (2011) (5p)
17. "Proton decay of ^{26}Si via the $^{28}\text{Si}(p,t)^{26}\text{Si}$ Reaction and Implications for $^{25}\text{Al}(p,\gamma)^{26}\text{Si}$ ", K.A. Chipps, D.W. Bardayan, J.F. Liang, C.D. Nesaraja, S.D. Pain, M.S. Smith, K.Y. Chae, B.H. Moazen, S.T. Pittman, K.T. Schmitt, J.A. Cizewski, P.D. O'Malley, W.A. Peters, R.L. Kozub, **C. Matei**, Proceedings of The Eleventh International Symposium on Nuclei in the Cosmos, PoS (NIC-XI) 205 (2011) (5p)
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19. "Neutron-transfer reaction studies with fission fragment radioactive ion beams near ^{132}Sn ", JA Cizewski, KL Jones, RL Kozub, SD Pain, A Adekola, DW Bardayan, JC Blackmon, WN Catford, KY Chae, KA Chipps, L Erikson, A Gaddis, R Grzywacz, C Harlin, R Hatarik, J Howard, MS Johnson, R Kapler, W Królas, JF Liang, R Livesay, Z Ma, **C. Matei**, B Moazen, CD Nesaraja, P O'Malley, SV Paulauskas, WA Peters, D Shapira, JF Shriner Jr, DJ Sissom, MS Smith, TP Swan, JS Thomas, GL Wilson, Proceedings of 4th International Workshop on Nuclear Fission and Fission-product Spectroscopy, AIP Conf. Proc. 1175, 147 (2009) (7p)
20. "Development of a Versatile Array of Neutron Detectors at Low Energy", **C. Matei**, D.W. Bardayan, J.C. Blackmon, J.A. Cizewski, R.K. Grzywacz, S.N. Liddick, S. D. Pain, S. W. Padgett, W. A. Peters, F. Sarazin, Proceedings of the 20th International Conference on the Application of Accelerators in Research and Industry, AIP Conf. Proc. 1099, 790 (2009) (4p)
21. "Neutron Transfer Reactions: Surrogates for Neutron Capture for Basic and Applied Nuclear Science", J.A. Cizewski, K.L. Jones, R.L. Kozub, S.D. Pain, W.A. Peters, J. Allen, D.W. Bardayan, J.A. Becker, J.C. Blackmon, R. Hatarik, **C. Matei**, C. Matthews, D. Radford, Proceedings of the 20th International Conference on the Application of Accelerators in Research and Industry, AIP Conf. Proc. 1099, 724 (2009) (4p)
22. "Studies of nuclei close to ^{132}Sn using single-neutron transfer reactions", K.J. Jones, S.D. Pain, R.L. Kozub, A.S. Adekola, D.W. Bardayan, J.C. Blackmon, W.N. Catford, K.Y. Chae, K. Chipps, J.A. Cizewski, L. Eriksonk, A.L. Gaddis, U. Greife, R. Grzywacz, C. Harlin, R. Hatarik, J.A. Howard, R. Kapler, J.F. Liang, Z. Ma, **C. Matei**, B.H. Moazen, C.D. Nesaraja, P.D. O'Malley, N.P. Patterson, S.V. Paulauskas, D. Shapira, J.F. Shriner Jr, M. Sikora, M.S. Smith, T.P. Swan, J.S. Thomas, G.L. Wilson, Proceedings of FUSION08: New Aspects of Heavy Ion Collisions Near the Coulomb Barrier, AIP Conf. Proc. 1098, 153 (2009) (7p)

23. “Neutron transfer reactions on neutron-rich $N=50$ and $N=82$ nuclei near the r-process path”, J.A. Cizewski, K.L. Jones, R.L. Kozub, S.D. Pain, J.S. Thomas, G. Arbanas, A. Adekola, D.W. Bardayan, J.C. Blackmon, K.Y. Chae, K.A. Chipps, D. Dean, L. Erikson, A. Gaddis, C. Harlin, R. Hatarik, J. Howard, M.S. Johnson, R. Kapler, W. Krolas, J.F. Liang, R.J. Livesay, Z. Ma, **C. Matei**, B. Moazen, C.D. Nesaraja, P.D. O’Malley, S.V. Paulauskas, D. Shapira, J.F. Shriner, Jr., M.S. Smith, T. Swan, G.L. Wilson, Proceedings of The Thirteenth International Symposium on Capture Gamma-Ray Spectroscopy, AIP Conf. Proc. 1090, 463 (2009) (8p)
24. “First Direct Measurement of the $^{17}\text{F}(p,g)^{18}\text{Ne}$ Cross Section”, K.A. Chipps, D.W. Bardayan, J.C. Blackmon, K.Y. Chae, U. Greife, R. Hatarik, R.L. Kozub, **C. Matei**, B.H. Moazen, C.D. Nesaraja, S.D. Pain, W.A. Peters, S.T. Pittman, J.F. Shriner, M.S. Smith, Proceedings of The Thirteenth International Symposium on Capture Gamma-Ray Spectroscopy, AIP Conf. Proc. 1090, 471 (2009)(5p)
25. “Development of the ORRUBA silicon detector array”, S.D. Pain, D.W. Bardayan, J.C. Blackmon, K.Y. Chae, K.A. Chipps, J.A. Cizewski, R. Hatarik, R.L. Kozub, **C. Matei**, B.H. Moazen, C.D. Nesaraja, W.A. Peters, S.T. Pittman, J.F. Shriner, M.S. Smith, Proceedings of The Thirteenth International Symposium on Capture Gamma-Ray Spectroscopy, AIP Conf. Proc. 1090, 570 (2009)(3p)
26. “Measurement of the 330 keV resonance in $^{18}\text{F}(p,\alpha)^{15}\text{O}$ ”, B.H. Moazen, J.C. Blackmon, D.W. Bardayan, K.Y. Chae, K. Chipps, K.L. Grzywacz, R.L. Kozub, **C. Matei**, C.D. Nesaraja, S.D. Pain, J.F. Shriner Jr., M.S. Smith, Acta Physica Polonica B 40, 699 (2009) (5p)
27. ”The Versatile Array of Neutron Detectors at Low Energy (VANDLE)”, **C. Matei**, D.W. Bardayan, J.C. Blackmon, J.A. Cizewski, R.K. Grzywacz, S.N. Liddick, S. D. Pain, S. W. Padgett, W. A. Peters, F. Sarazin, Proceedings of The Tenth International Symposium on Nuclei in the Cosmos, PoS (NIC-X) 138 (2008)(5p)
28. “Spin assignments of ^{22}Mg through a $^{24}\text{Mg}(p,t)^{22}\text{Mg}$ measurement”, K.Y. Chae, K.L. Jones, B.H. Moazen, S.T. Pittman, D.W. Bardayan, J.C. Blackmon, J.F. Liang, M.S. Smith, K. Chipps, R. Hatarik, P.D. O’Malley, S.D. Pain, R.L. Kozub, **C. Matei**, C.D. Nesaraja, Proceedings of The Tenth International Symposium on Nuclei in the Cosmos, PoS (NIC-X) 169 (2008) (5p)
29. “Neutron-spectroscopic factors for low-lying ^{16}N levels”, D.W. Bardayan, P.D. O’Malley, J.C. Blackmon, K.Y. Chae, K.A. Chipps, J.A. Cizewski, R. Hatarik, K.L. Jones, R.L. Kozub, **C. Matei**, B.H. Moazen, C.D. Nesaraja, S.D. Pain, S. Paulauskas, W.A. Peters, S.T. Pittman, K.T. Schmitt, J.F. Shriner, Jr., M.S. Smith, Proceedings of The Tenth International Symposium on Nuclei in the Cosmos, PoS (NIC-X) 067 (2008) (5p)
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32. “Development of ORRUBA: A Silicon Array for the Measurement of Transfer Reactions in Inverse Kinematics”, S.D. Pain, D.W. Bardayan, J.C. Blackmon, K.Y. Chae, K.A. Chipps, J.A. Cizewski, R. Hatarik, **C. Matei**, M.S. Smith, Proceedings of the Fourth International Conference on Fission and Properties of Neutron-Rich Nuclei, World Scientific, (2008) 252 (6p)
33. “Single-neutron structure of neutron-rich nuclei near $N=50$ and $N=82$ ”, J.A. Cizewski, K.L. Jones, R.L. Kozub, S.D. Pain, D.W. Bardayan, J.C. Blackmon, A. Adekola, K.Y. Chae, K. Chipps, L. Erikson, A. Gaddis, C. Harlin, R. Hatarik, J. Howard, R. Kapler, W. Krolas, J.F. Liang, R.J. Livesay, Z. Ma, **C. Matei**, B. Moazen, C.D. Nesaraja, P. OMalley, N. Patterson, S.V. Paulauskas, D. Shapira, J.F. Shriner, Jr., D.J. Sissom, M.S. Smith, T. Swan, J.S. Thomas, G.L. Wilson, Proceedings of The Fourth International Conference on Fission and Properties of Neutron-Rich Nuclei, World Scientific (2008) 580 (8p)
34. “Level Structure of ^{19}Ne from studies of the $^{17}\text{O}(^3\text{He},n)^{19}\text{Ne}$ Reaction”, M.J. Hornish, C.R. Brune, S.M. Grimes, M.H. Hadizadeh, T.N. Massey, A.V. Voinov, J.E. O’Donnell, A. Adekola, C. Matei, and Z. Heinen, Proceedings of The Ninth International Symposium on Nuclei in the Cosmos, PoS (NIC-IX) 119 (2006)(5p)

CONFERENCE PRESENTATIONS (CONTRIBUTED)

1. The Quest for Accurate Measurements of the Intensity of Gamma-ray Beams, **C. Matei**, V. Iancu, A. Pappalardo, G.V. Turturica, The 2023 International Conference on the Applications of Nuclear Techniques, Crete, Greece, June 2023
2. First measurement of the ${}^7\text{Li}(\gamma,t){}^4\text{He}$ cross section using mono-energetic γ -ray beams, **C. Matei** et al., Nuclear Physics in Astrophysics IX, Frankfurt, Germany, September 2019
3. ${}^7\text{Li}(\gamma,t){}^4\text{He}$ reaction at HI γ S and perspectives for BBN investigations at ELI-NP, **C. Matei** et al., Nuclear Photonics 2018, Brasov, Romania, June 2018
4. Neutron Detectors for Gamma Beam Intensity and Polarization Monitoring at ELI-NP, **C. Matei**, D.L. Balabanski, V. Iancu, A. Pappalardo, G. Suliman, C.A. Ur, The 2017 International Conference on the Applications of Nuclear Techniques, Crete, Greece, June 2017
5. Instruments for Measuring the Intensity of the Gamma Beam at ELI-NP, **C. Matei**, A. Pappalardo, G. Suliman, C.A. Ur, International Conference on Advancements in Nuclear Instrumentation, Measurement Methods and their Applications, Liege, Belgium, June 2017
6. Overview of the gamma beam monitoring instruments at ELI-NP, **C. Matei**, A. Pappalardo, G. Suliman, C.A. Ur, Nuclear Photonics 2016, Monterey, USA, October 2016
7. Proposed nuclear astrophysics measurements with ELISSA at ELI-NP, **C. Matei**, D.L. Balabanski, Y. Xu, M. LaCognata, C. Spitaleri, The 2nd Sicily-East Asia Workshop on Low-energy Nuclear Physics, Waco, Japan, June 2016
8. Nuclear Astrophysics Measurements with ELISSA at ELI-NP, **C. Matei**, D.L. Balabanski, D.M. Filipescu, O. Tesileanu, Y. Xu, Contribution to the XIV International Symposium on Nuclei in the Cosmos, Niigata, Japan, June 2016
Gamma beam monitoring instruments at ELI-NP, **C. Matei**, J.M. Mueller, G. Suliman, C.A. Ur, H.R. Weller, 2015 European Nuclear Physics Conference, Groningen, Netherlands, September 2015
9. Photodisintegration reactions for nuclear astrophysics studies at ELI-NP, **C. Matei**, D. Balabanski and O. Tesileanu, Nuclear Physics in Astrophysics VII, York, UK, May 2015
10. Recent measurements using monoenergetic and thermal neutrons at the National Physical Laboratory, **C. Matei**, N.P. Hawkes, N.J. Roberts, G.C. Taylor, D. J. Thomas, Workshop on Accelerator based Neutron Production ABNP 2014, Padova, Italy, April 2014
11. Measurements of the neutron-induced fission cross section of ${}^{242}\text{Pu}$, **C. Matei**, D.J. Thomas, J. Heyse, A.J.M. Plompen, IOP Nuclear Physics Group Conference, Surrey, UK, April 2014
12. Neutron detector characterization for SCINTIA array, **C. Matei**, F.-J. Hamsch, and S. Oberstedt, International Conference on Advancements in Nuclear Instrumentation, Measurement Methods and their Applications, Gent, Belgium, June 2011
13. Direct Measurement of Low Energy Resonances in ${}^{31}\text{P}(\text{p},\text{g}){}^{28}\text{Si}$ and ${}^{35}\text{Cl}(\text{p},\text{g}){}^{36}\text{Ar}$, **C. Matei**, B.H. Moazen, D.W. Bardayan, J.C. Blackmon, K.Y. Chae, K.A. Chipps, R. Hatarik, K.L. Jones, M. Matos, C.D. Nesaraja, S.D. Pain, W.A. Peters, S.T. Pittman, and M.S. Smith, 2009 American Physical Society April Meeting, Denver CO, April 2009.
14. Development of a Versatile Array of Neutron Detectors at Low Energy, **C. Matei**, D.W. Bardayan, J.C. Blackmon, J.A. Cizewski, R.K. Grzywacz, S.N. Liddick, S. D. Pain, S. W. Padgett, W. A. Peters, F. Sarazin, 2008 Annual Meeting of the Division of Nuclear Physics, Oakland CA, October 2008.
15. Development of a Versatile Array of Neutron Detectors at Low Energy, **C. Matei**, D.W. Bardayan, J.C. Blackmon, J.A. Cizewski, R.K. Grzywacz, S.N. Liddick, S. D. Pain, S. W. Padgett, W. A. Peters, F. Sarazin, CAARI 2008: 20th International Conference on the Application of Accelerators in Research and Industry, Ft. Worth, TX, August 11-15, 2008
16. The Versatile Array of Neutron Detectors at Low Energy (VANDLE), **C. Matei**, D.W. Bardayan, J.C. Blackmon, J.A. Cizewski, R.K. Grzywacz, K.L. Jones, S.N. Liddick, P.D. O'Malley, S.D. Pain, W.A. Peters, Contribution to the Ten International Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008

17. Cascade Transitions in ^{16}O and the $^{12}\text{C}(\text{a,g})^{16}\text{O}$ Reaction Cross Section, **C. Matei**, C.R. Brune, L. Buchmann, Workshop on R-Matrix and Nuclear Reactions in Stellar Hydrogen and Helium Burning, Santa Fe, April 2008
18. First Measurement of the Cascade Transition via the 6.049-MeV State of ^{16}O in the $^{12}\text{C}(\text{a,g})^{16}\text{O}$ Reaction, **C. Matei**, L. Buchmann, W.R. Hannes, D.A. Hutcheon, C. Ruiz, C. R. Brune, J. Caggiano, A.A. Chen, J. D'Auria, A. Laird, M. Lamey, Z.H. Li, W.P. Liu, A. Olin, D. Ottewell, J. Pearson, G. Ruprecht, M. Trinczek, C. Vockenhuber, and C. Wrede, April 2007 Meeting of the American Physical Society, Jacksonville FL, April 2007
19. Investigation of Plastic Scintillator Detector Configurations for Neutron Studies, **C. Matei**, D.W. Bardayan, J.C. Blackmon, J.A. Cizewski, P.D. O'Malley, S.D. Pain, W.A. Peter, R.K. Grzywacz, K.L. Jones, S.N. Liddick, 2007 Annual Meeting of the Division of Nuclear Physics, Newport News VA, October 2007
20. Measurement of the cascade cross section to the 6.049-MeV state in ^{16}O in $^{12}\text{C}(\text{a,g})^{16}\text{O}$, **C. Matei**, C.R. Brune and L. Buchmann, 2007 Stewardship Science Academic Alliances Symposium, Washington DC, February 2007
21. Measurement of the cascade cross section to the 6.049-MeV state in ^{16}O in $^{12}\text{C}(\text{a,g})^{16}\text{O}$, **C. Matei**, L. Buchmann, et al., Oral Contribution at the Nine International Symposium on Nuclei in the Cosmos, Geneva, Switzerland, June 2006
22. Branching ratio measurements of the 7.12-MeV state in ^{16}O , **C. Matei** and C.R. Brune, Division of Nuclear Physics Fall Meeting, Chicago IL, October 2004
23. Branching ratio measurements of the 7.12-MeV state in ^{16}O , **C. Matei** and C. R. Brune, Contribution to the Eight International Symposium on Nuclei in the Cosmos, Vancouver, BC, July 2004

PEER REVIEW ACTIVITY

1. National Science Foundation (NSF), USA – Reviewer for Physics Division
2. The Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), Romania - Reviewer for Physics & Engineering Section
3. Reviewer for European Physical Journal A, Nuclear Instrument and Measurements A, Radiation Protection Dosimetry