

Erin E. Peters, Ph.D.

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Education

- May 10, 2014 📖 **Ph.D. in Chemistry, University of Kentucky, Lexington, KY**
Dissertation: "Nuclear structure in transitional regions: Studies of $^{132,134}\text{Xe}$ and lifetimes in ^{94}Zr with the $(n,n'\gamma)$ reaction"
Advisor: Prof. Steven W. Yates
- May 13, 2006 📖 **B.S. in Chemistry, University of the Cumberlands, Williamsburg, KY**
Undergraduate thesis: "A study of cholesterol purification using pyridinium tribromide and tetra-n-butylammonium tribromide"
Advisor: Prof. Julie Tan

Employment History

- Jan. 2022 – present 📖 **Lecturer** Department of Chemistry, University of Kentucky, Lexington, KY
- Jan. 2024 – present 📖 **Interim Director** University of Kentucky Accelerator Laboratory
- Aug. 2019 – Dec. 2021 📖 **Full-time Temporary Instructor**, Department of Chemistry, University of Kentucky, Lexington, KY
- July 2019 📖 **Consultant**, Elemental Analysis Inc., Lexington, KY
- May 2014 – July 2019 📖 **Postdoctoral Scholar**, Department of Chemistry, University of Kentucky, Lexington, KY
- Jan. 2015 – May 2017, Aug. 2018 – May 2019 📖 **Part-time Instructor**, Department of Chemistry, University of Kentucky, Lexington, KY

Courses Taught

- CHE105 📖 General College Chemistry I. First-semester freshman chemistry, class sizes up to 280, spring 2015-present
- CHE107 📖 General College Chemistry II. Second-semester freshman chemistry, class sizes up to 270, spring semesters 2016-present
- CHE226 📖 Analytical Chemistry. Undergraduate-level course for majors and minors, fall semesters 2021-present
- Recitations 📖 General chemistry recitation coordinator 2022-2023, up to 11 teaching assistants and 1800 total undergraduate students; Taught all recitations virtually for CHE105 spring 2021

Grants Awarded

- NSF 📖 "Probing Nuclear Structure and Shape Coexistence with Fast Neutrons," National Science Foundation, Principle Investigator as of Dec. 1, 2023, prior Co-Investigator with S.W. Yates, \$683,486, PHY-2209178, 8/1/2022-7/31/2025

Grants Awarded (continued)

- “Examining Nuclear Structure with Fast Neutrons,” National Science Foundation, Principle Investigator as of Dec. 12, 2023, \$499,999, PHY-1913028, 8/5/2019-11/30/2024
- DOE ■ “Neutron Scattering Cross Sections: (n,n') , $(n,n'\gamma)$, and (n,γ) Measurements,” Department of Energy, Principle Investigator as of Dec. 1, 2023, \$149,862 (year 3 only), DE-SC0021424, 12/1/2022-11/30/2024

Publications

Peer-Reviewed Publications

- 1 E. E. Peters, B. A. Brown, S. Mukhopadhyay, A. P. D. Ramirez, and S. W. Yates, “Nuclear structure of ^{74}Ge from inelastic neutron scattering measurements and shell-model calculations,” *Phys. Rev. C*, vol. 109, p. 054 318, 5 May 2024. [DOI: 10.1103/PhysRevC.109.054318](https://doi.org/10.1103/PhysRevC.109.054318).
- 2 J. Deary, M. Scheck, R. Schwengner, D. O’Donnell, D. Bemmerer, R. Beyer, T. Hensel, A. R. Junghans, T. Kögler, S. E. Müller, K. Römer, K. Schmidt, S. Turkat, S. Urlaß, A. Wagner, M. Bowry, P. Adsley, O. Agar, R. Chapman, F. C. L. Crespi, D. T. Doherty, U. F. Gayer, R.-D. Herzberg, J. Isaak, R. V. F. Janssens, T. Kröll, B. Löher, B. S. Nara Singh, P. von Neumann-Cosel, L. Pellegrini, E. E. Peters, G. Rainovski, D. Savran, J. F. Smith, M. Spieker, P. G. Thirolf, S. Triambak, W. Tornow, M. Venhart, M. Wiedeking, O. Wieland, S. W. Yates, and A. Zilges, “Photo-response of the $N = Z$ nucleus ^{24}Mg ,” *Eur. Phys. J. A*, vol. 59, no. 9, p. 198, 2023. [DOI: 10.1140/epja/s10050-023-01111-7](https://doi.org/10.1140/epja/s10050-023-01111-7).
- 3 S. R. Johnson, R. V. F. Janssens, U. Friman-Gayer, B. A. Brown, B. P. Crider, S. W. Finch, Krishichayan, D. R. Little, S. Mukhopadhyay, E. E. Peters, A. P. D. Ramirez, J. A. Silano, A. P. Tonchev, W. Tornow, and S. W. Yates, “Testing shell-model interactions at high excitation energy and low spin: Nuclear resonance fluorescence in ^{74}Ge ,” *Phys. Rev. C*, vol. 108, p. 024 315, 2 Aug. 2023. [DOI: 10.1103/PhysRevC.108.024315](https://doi.org/10.1103/PhysRevC.108.024315).
- 4 S. R. Leshner, A. Aprahamian, K. Lee, B. Alemayehu, L. M. Clark, X. James, J. C. T. Lowrie, M. Meier, L. McEwan, S. Mukhopadhyay, E. E. Peters, A. P. D. Ramirez, M. Ryan, B. G. Rice, A. Stratman, E. Temanson, J. R. Vanhoy, and S. W. Yates, “Lifetime measurements of 0^+ states in ^{168}Er with the Doppler-shift attenuation method,” *Phys. Rev. C*, vol. 106, p. 044 302, 4 Oct. 2022. [DOI: 10.1103/PhysRevC.106.044302](https://doi.org/10.1103/PhysRevC.106.044302).
- 5 A. P. D. Ramirez, E. E. Peters, S. Mukhopadhyay, M. T. McEllistrem, S. W. Yates, E. C. Derdeyn, S. F. Hicks, E. M. Lyons, T. J. Morin, and J. R. Vanhoy, “Neutron elastic and inelastic cross section measurements on silicon from 0.8 – 8 MeV,” *Nuclear Physics A*, vol. 1024, p. 122 474, 2022, ISSN: 0375-9474. [DOI: https://doi.org/10.1016/j.nuclphysa.2022.122474](https://doi.org/10.1016/j.nuclphysa.2022.122474).
- 6 A. P. D. Ramirez, E. E. Peters, J. R. Vanhoy, S. F. Hicks, L. A. Alasagas, D. K. Alcorn-Dominguez, S. T. Block, S. T. Byrd, E. A. Chouinard, B. M. Combs, B. P. Crider, E. C. Derdyn, L. Downes, J. A. Erlanson, S. E. Evans, A. J. French, E. A. Garza, J. Girgis, T. D. Harrison, S. L. Henderson, T. J. Howard, D. T. Jackson, L. J. Kersting, A. Kumar, S. H. Liu, C. J. Lueck, E. M. Lyons, P. J. McDonough, M. T. McEllistrem, T. J. Morin, S. Mukhopadhyay, T. A. Nguyen, M. Nickel, S. Nigam, R. L. Pecha, J. Potter, F. M. Prados-Estévez, B. G. Rice, T. J. Ross, Z. C. Santonil, J. Schneiderjan, L. C. Sidwell, A. J. Sigillito, J. L. Steves, B. K. Thompson, D. W. Watts, Y. Xiao, and S. W. Yates, “Neutron elastic and inelastic scattering differential cross sections on carbon,” *Nuclear Physics A*, vol. 1023, p. 122 446, 2022, ISSN: 0375-9474. [DOI: https://doi.org/10.1016/j.nuclphysa.2022.122446](https://doi.org/10.1016/j.nuclphysa.2022.122446).
- 7 T. Beck, V. Werner, N. Pietralla, M. Bhide, N. Cooper, U. Friman-Gayer, J. Isaak, R. V. Jolos, J. Kleemann, Krishichayan, O. Papst, W. Tornow, C. Bernards, B. P. Crider, R. S. Ilieva, B. Löher, C. Mihai, F. Naqvi, S. Pascu, E. E. Peters, F. M. Prados-Estévez, T. J. Ross, D. Savran, J. R. Vanhoy, and A. Zilges, “ $\Delta K = 0$ $M1$ excitation strength of the well-deformed nucleus ^{164}Dy from K mixing,” *Phys. Rev. Lett.*, vol. 125, p. 092 501, 9 Aug. 2020. [DOI: 10.1103/PhysRevLett.125.092501](https://doi.org/10.1103/PhysRevLett.125.092501).

- 8 F. H. Garcia, C. Andreoiu, G. C. Ball, A. Bell, A. B. Garnsworthy, F. Nowacki, C. M. Petrache, A. Poves, K. Whitmore, F. A. Ali, N. Bernier, S. S. Bhattacharjee, M. Bowry, R. J. Coleman, I. Dillmann, I. Djianto, A. M. Forney, M. Gascoine, G. Hackman, K. G. Leach, A. N. Murphy, C. R. Natzke, B. Olaizola, K. Ortner, **E. E. Peters**, M. M. Rajabali, K. Raymond, C. E. Svensson, R. Umashankar, J. Williams, and D. Yates, "Absence of low-energy shape coexistence in ^{80}Ge : The nonobservation of a proposed excited 0_2^+ level at 639 keV," *Phys. Rev. Lett.*, vol. 125, p. 172 501, 17 Oct. 2020. [DOI](#): 10.1103/PhysRevLett.125.172501.
- 9 O. Papst, V. Werner, J. Isaak, N. Pietralla, T. Beck, C. Bernards, M. Bhike, N. Cooper, B. P. Crider, U. Friman-Gayer, J. Kleemann, Krishichayan, B. Löher, F. Naqvi, **E. E. Peters**, F. M. Prados-Estévez, R. S. Ilieva, T. J. Ross, D. Savran, W. Tornow, and J. R. Vanhoy, "Photo response of ^{164}Dy ," *Phys. Rev. C*, vol. 102, p. 034 323, 3 Sep. 2020. [DOI](#): 10.1103/PhysRevC.102.034323.
- 10 J. Sinclair, M. Scheck, S. W. Finch, Krishichayan, U. Friman-Gayer, W. Tornow, G. Battaglia, T. Beck, R. Chapman, M. M. R. Chishti, C. Fransen, R. Gonzales, E. Hoemann, J. Isaak, R. V. F. Janssens, D. A. Jaroszynski, S. Johnson, M. D. Jones, J. M. Keatings, N. Kelly, J. Kleemann, D. Little, B. Löher, K. R. Mashtakov, M. Müscher, D. O'Donnell, O. Papst, **E. E. Peters**, D. Savran, M. Schilling, R. Schwengner, P. Spagnoletti, M. Spieker, V. Werner, J. Wilhelmy, O. Wieland, S. W. Yates, and A. Zilges, "Firm spin and parity assignments for high-lying, low-spin levels in stable Si isotopes," *Eur. Phys. J. A*, vol. 56, no. 4, p. 105, 2020. [DOI](#): 10.1140/epja/s10050-020-00118-8.
- 11 J. K. Smith, A. B. Garnsworthy, J. L. Pore, C. Andreoiu, A. D. MacLean, A. Chester, Z. Beadle, G. C. Ball, P. C. Bender, V. Bildstein, R. Braid, A. D. Varela, R. Dunlop, L. J. Evitts, P. E. Garrett, G. Hackman, S. V. Ilyushkin, B. Jigmeddorj, K. Kuhn, A. T. Laffoley, K. G. Leach, D. Miller, W. J. Mills, W. Moore, M. Moukaddam, B. Olaizola, **E. E. Peters**, A. J. Radich, E. T. Rand, F. Sarazin, C. E. Svensson, S. J. Williams, and S. W. Yates, "Spectroscopic study of ^{47}Ca from the β^- decay of ^{47}K ," *Phys. Rev. C*, vol. 102, p. 054 314, 5 Nov. 2020. [DOI](#): 10.1103/PhysRevC.102.054314.
- 12 K. Wrzosek-Lipska, L. Próchniak, P. E. Garrett, S. W. Yates, J. L. Wood, P. J. Napiorkowski, T. Abraham, J. M. Allmond, F. L. Bello Garrote, H. Bidaman, V. Bildstein, C. Burbadge, M. Chiari, A. Diaz Varela, D. T. Doherty, S. Dutt, K. Hadynska-Klek, M. Hlebowicz, J. Iwanicki, B. Jigmeddorj, M. Kisielinski, M. Komorowska, M. Kowalczyk, R. Kumar, T. Marchlewski, M. Matejska-Minda, B. Olaizola, F. Oleszczuk, M. Palacz, E. Pasquali, **E. E. Peters**, M. Rocchini, E. Sahin, M. Saxena, J. Srebrny, and A. Tucholski, "Quadrupole deformation of ^{110}Cd studied with Coulomb excitation," *Acta Phys. Pol. B*, vol. 51, p. 789, 2020. [DOI](#): 10.5506/APhysPolB.51.789.
- 13 S. W. Yates, S. Mukhopadhyay, B. P. Crider, **E. E. Peters**, and A. P. D. Ramirez, "Probing the nuclear structure of candidates for neutrinoless double-beta decay with fast neutrons," *Journal of Physics: Conference Series*, vol. 1643, no. 1, p. 012 163, Dec. 2020. [DOI](#): 10.1088/1742-6596/1643/1/012163.
- 14 S. W. Yates, **E. E. Peters**, B. P. Crider, S. Mukhopadhyay, and A. P. D. Ramirez, "Relevance of the nuclear structure of the stable Ge isotopes to the neutrino-less double-beta decay of ^{76}Ge ," *EPJ Web Conf.*, vol. 232, p. 04 011, 2020. [DOI](#): 10.1051/epjconf/202023204011.
- 15 L. J. Evitts, A. B. Garnsworthy, T. Kibédi, J. Smallcombe, M. W. Reed, A. E. Stuchbery, G. J. Lane, T. K. Eriksen, A. Akber, B. Alshahrani, M. de Vries, M. S. M. Gerathy, J. D. Holt, B. Q. Lee, B. P. McCormick, A. J. Mitchell, M. Moukaddam, S. Mukhopadhyay, N. Palalani, T. Palazzo, **E. E. Peters**, A. P. D. Ramirez, T. Tornyi, and S. W. Yates, " $E0$ transition strength in stable Ni isotopes," *Phys. Rev. C*, vol. 99, p. 024 306, 2 Feb. 2019. [DOI](#): 10.1103/PhysRevC.99.024306.
- 16 A. B. Garnsworthy, C. E. Svensson, M. Bowry, R. Dunlop, A. D. MacLean, B. Olaizola, J. K. Smith, F. A. Ali, C. Andreoiu, J. E. Ash, W. H. Ashfield, G. C. Ball, T. Ballast, C. Bartlett, Z. Beadle, P. C. Bender, N. Bernier, S. S. Bhattacharjee, H. Bidaman, V. Bildstein, D. Bishop, P. Boubel, R. Braid, D. Brennan, T. Bruhn, C. Burbadge, A. Cheeseman, A. Chester, R. Churchman, S. Ciccone, R. Caballero-Folch, D. S. Cross, S. Cruz, B. Davids, A. Diaz Varela, I. Dillmann, M. R. Dunlop, L. J. Evitts, F. H. Garcia, P. E. Garrett, S. Georges, S. Gillespie, R. Gudapati, G. Hackman, B. Hadinia, S. Hallam, J. Henderson, S. Ilyushkin, B. Jigmeddorj, A. I. Kilic, D. Kisiuk, R. Kokke, K. Kuhn, R. Krücken, M. Kuwabara,

- A. T. Laffoley, R. Lafleur, K. G. Leach, J. R. Leslie, Y. Linn, C. Lim, E. MacConnachie, A. R. Mathews, E. McGee, J. Measures, D. Miller, W. J. Mills, W. Moore, D. Morris, L. N. Morrison, M. Moukaddam, C. R. Natzke, K. Ortner, E. Padilla-Rodal, O. Paetkau, J. Park, H. P. Patel, C. J. Pearson, E. Peters, **E. E. Peters**, J. L. Pore, A. J. Radich, M. M. Rajabali, E. T. Rand, K. Raymond, U. Rizwan, P. Ruotsalainen, Y. Saito, F. Sarazin, B. Shaw, J. Smallcombe, D. Southall, K. Starosta, M. Ticu, E. Timakova, J. Turko, R. Umashankar, C. Unsworth, Z. M. Wang, K. Whitmore, S. Wong, S. W. Yates, E. F. Zganjar, and T. Zidar, "The GRIFFIN facility for decay-spectroscopy studies at TRIUMF-ISAC," *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, vol. 918, pp. 9–29, 2019, ISSN: 0168-9002. [DOI: https://doi.org/10.1016/j.nima.2018.11.115](https://doi.org/10.1016/j.nima.2018.11.115).
- 17 J. Heideman, D. Pérez-Loureiro, R. Grzywacz, C. R. Thornsberry, J. Chan, L. H. Heilbronn, S. K. Neupane, K. Schmitt, M. M. Rajabali, A. R. Engelhardt, C. W. Howell, L. D. Mostella, J. S. Owens, S. C. Shadrack, **E. E. Peters**, A. P. D. Ramirez, S. W. Yates, and K. Vaigneur, "Conceptual design and first results for a neutron detector with interaction localization capabilities," *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, vol. 946, p. 162 528, 2019, ISSN: 0168-9002. [DOI: https://doi.org/10.1016/j.nima.2019.162528](https://doi.org/10.1016/j.nima.2019.162528).
- 18 S. Mukhopadhyay, B. P. Crider, B. A. Brown, A. Chakraborty, A. Kumar, M. T. McEllistrem, **E. E. Peters**, F. M. Prados-Estévez, and S. W. Yates, "Inelastic neutron scattering studies of ^{76}Se ," *Phys. Rev. C*, vol. 99, p. 014 313, 1 Jan. 2019. [DOI: 10.1103/PhysRevC.99.014313](https://doi.org/10.1103/PhysRevC.99.014313).
- 19 **E. E. Peters**, A. E. Stuchbery, A. Chakraborty, B. P. Crider, S. F. Ashley, A. Kumar, M. T. McEllistrem, F. M. Prados-Estévez, and S. W. Yates, "Emerging collectivity from the nuclear structure of ^{132}Xe : Inelastic neutron scattering studies and shell-model calculations," *Phys. Rev. C*, vol. 99, p. 064 321, 6 Jun. 2019. [DOI: 10.1103/PhysRevC.99.064321](https://doi.org/10.1103/PhysRevC.99.064321).
- 20 J. L. Pore, C. Andreoiu, J. K. Smith, A. D. MacLean, A. Chester, J. D. Holt, G. C. Ball, P. C. Bender, V. Bildstein, R. Braid, A. Diaz Varela, R. Dunlop, L. J. Evitts, A. B. Garnsworthy, P. E. Garrett, G. Hackman, S. V. Ilyushkin, B. Jigmeddorj, K. Kuhn, P. Kunz, A. T. Laffoley, K. G. Leach, D. Miller, W. J. Mills, W. Moore, M. Moukaddam, L. N. Morrison, B. Olaizola, **E. E. Peters**, A. J. Radich, E. T. Rand, F. Sarazin, D. Southall, C. E. Svensson, S. J. Williams, and S. W. Yates, "Detailed spectroscopy of ^{46}Ca : A study of the β^- decay of ^{46}K ," *Phys. Rev. C*, vol. 100, p. 054 327, 5 Nov. 2019. [DOI: 10.1103/PhysRevC.100.054327](https://doi.org/10.1103/PhysRevC.100.054327).
- 21 A. P. D. Ramirez, B. Alemayehu, J. Lowrie, S. F. Hicks, J. R. Vanhoy, M. T. McEllistrem, S. Mukhopadhyay, **E. E. Peters**, and S. W. Yates, "Undergraduate education at the University of Kentucky accelerator laboratory," *AIP Conference Proceedings*, vol. 2160, no. 1, p. 050 022, Oct. 2019, ISSN: 0094-243X. [DOI: 10.1063/1.5127714](https://pubs.aip.org/aip/acp/article-pdf/doi/10.1063/1.5127714/14196459/050022_1_online.pdf). eprint: https://pubs.aip.org/aip/acp/article-pdf/doi/10.1063/1.5127714/14196459/050022_1_online.pdf.
- 22 **Erin E. Peters**, Timothy J. Ross, Benjamin P. Crider, and Steven W. Yates, "Probing the structure of the stable Xe isotopes with inelastic neutron scattering," *EPJ Web Conf.*, vol. 178, p. 02 028, 2018. [DOI: 10.1051/epjconf/201817802028](https://doi.org/10.1051/epjconf/201817802028).
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- 24 M. Moukaddam, J. Smallcombe, L. J. Evitts, A. B. Garnsworthy, C. Andreoiu, G. C. Ball, J. Berean-Dutcher, D. Bishop, C. Bolton, R. Caballero-Folch, M. Constable, D. S. Cross, T. E. Drake, R. Dunlop, P. E. Garrett, S. Georges, G. Hackman, S. Hallam, J. Henderson, R. Henderson, R. Krücken, L. Kurchaninov, A. Kurkjian, B. Olaizola, E. O'Sullivan, P. Lu, J. Park, **E. E. Peters**, J. L. Pore, E. T. Rand, P. Ruotsalainen, J. K. Smith, D. Southall, M. Spencer, C. E. Svensson, M. Wiens, M. Williams, S. W. Yates, and T. Zidar, "In-beam internal conversion electron spectroscopy with the SPICE detector," *Nuclear*

Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, vol. 905, pp. 180–187, 2018, ISSN: 0168-9002. [DOI: https://doi.org/10.1016/j.nima.2018.07.064](https://doi.org/10.1016/j.nima.2018.07.064).

- 25 **E. E. Peters**, P. Van Isacker, A. Chakraborty, B. P. Crider, A. Kumar, S. H. Liu, M. T. McEllistrem, C. V. Mehl, F. M. Prados-Estévez, T. J. Ross, J. L. Wood, and S. W. Yates, “Seniority structure of $^{136}\text{Xe}_{82}$,” *Phys. Rev. C*, vol. 98, p. 034302, 3 Sep. 2018. [DOI: 10.1103/PhysRevC.98.034302](https://doi.org/10.1103/PhysRevC.98.034302).
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- 27 J. R. Vanhoy, S. H. Liu, S. F. Hicks, B. M. Combs, B. P. Crider, A. J. French, E. A. Garza, T. Harrison, S. L. Henderson, T. J. Howard, M. T. McEllistrem, S. Nigam, R. L. Pecha, **E. E. Peters**, F. M. Prados-Estévez, A. P. D. Ramirez, B. G. Rice, T. J. Ross, Z. C. Santonil, L. C. Sidwell, J. L. Steves, B. K. Thompson, and S. W. Yates, “ ^{54}Fe neutron elastic and inelastic scattering differential cross sections from 2 – 6 MeV,” *Nuclear Physics A*, vol. 972, pp. 107–120, 2018, ISSN: 0375-9474. [DOI: https://doi.org/10.1016/j.nuclphysa.2018.02.004](https://doi.org/10.1016/j.nuclphysa.2018.02.004).
- 28 S. F. Hicks, T. D. Nguyen, D. T. Jackson, S. G. Block, S. T. Byrd, M. T. Nickel, J. R. Vanhoy, **E. E. Peters**, A. P. D. Ramirez, M. T. McEllistrem, S. Mukhopadhyay, and S. W. Yates, “Opportunities for undergraduate research in nuclear physics,” *Physics Procedia*, vol. 90, pp. 323–331, 2017, Conference on the Application of Accelerators in Research and Industry, CAARI 2016, 30 October – 4 November 2016, Ft. Worth, TX, USA, ISSN: 1875-3892. [DOI: https://doi.org/10.1016/j.phpro.2017.09.024](https://doi.org/10.1016/j.phpro.2017.09.024).
- 29 S. R. Leshner, C. Casarella, A. Aprahamian, L. M. Robledo, B. P. Crider, R. Ikeyama, I. R. Marsh, M. T. McEllistrem, **E. E. Peters**, F. M. Prados-Estévez, M. K. Smith, Z. R. Tully, J. R. Vanhoy, and S. W. Yates, “Lifetime measurements of low-spin negative-parity levels in ^{160}Gd ,” *Phys. Rev. C*, vol. 95, p. 064309, 6 Jun. 2017. [DOI: 10.1103/PhysRevC.95.064309](https://doi.org/10.1103/PhysRevC.95.064309).
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- 9 **E. E. Peters**, A. Chakraborty, B. P. Crider, A. Kumar, F. M. Prados-Estévez, S. F. Ashley, E. Elhami, S. Mukhopadhyay, J. N. Orce, M. T. McEllistrem, and S. W. Yates, “Low-lying structure of $^{132,134}\text{Xe}$ from inelastic neutron scattering,” in *Proceedings of the Fourteenth International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics, World Scientific Publishing Co. Pte. Ltd.*, 2013, p. 221.
- 10 F. M. Prados-Estévez, N. Kibèdi T. Cooper, B. P. Crider, G. D. Dracoulis, R. F. Leslie, **E. E. Peters**, A. E. Stuchbery, A. P. Tonchev, V. Werner, L. T. Williams, and S. W. Yates, “Internal conversion electron study of excited states in ^{76}As ,” in *Proceedings of the Fourteenth International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics, World Scientific Publishing Co. Pte. Ltd.*, 2013, p. 575.
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- 12 M. Scheck, S. Mukhopadhyay, B. P. Crider, S. N. Choudry, E. Elahmi, **E. E. Peters**, M. T. McEllistrem, J. N. Orce, and S. W. Yates, “Low-lying collective states in ^{136}Ba ,” in *AIP Conference Proceedings (Capture Gamma-Ray Spectroscopy and Related Topics) vol 1090*, 2009, pp. 253–257.

Invited Presentations

- “Elucidating the Ge nuclei with the shell model.” Symposium in Honor of the 75th Anniversary of the Nuclear Shell Model and Maria Goeppert-Mayer, Argonne National Laboratory, July 19-21, 2024.
- “The nuclear structure of ^{74}Ge from inelastic neutron scattering.” 17th International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics, Grenoble, France, July 2023.

- “Nuclear structure for neutrinoless double-beta decay.” APS April Meeting, virtual conference, April 19, 2021.
- “Resolving an anomaly: The nuclear structure of ^{94}Zr .” University of Kentucky Department of Physics and Astronomy nuclear group seminar, September 27, 2018.
- “Resolving an anomaly: The nuclear structure of ^{94}Zr .” Ohio University Institute of Nuclear and Particle Physics seminar, September 11, 2018.
- “A Tale of Two Structures: Nuclear and Material.” Mississippi State University Department of Physics and Astronomy colloquium, November 20, 2017.
- “The transitional structure of $^{132,134}\text{Xe}$.” ISTROS 2015, Bratislava, Slovakia, May 1-6, 2015.
- “The Zr story: How poorly understood material structure created interesting nuclear structure.” Presentation to the University of Kentucky Department of Physics & Astronomy graduate students, February 11, 2015.
- “Chemical Effects in Femtosecond Nuclear Half-life Measurements.” University of the Cumberlands, Department of Chemistry, November 8, 2013.
- “Nuclear level lifetimes in ^{94}Zr : From anomaly to resolution.” Los Alamos National Laboratory, Division of Actinide Analytical Chemistry, July 18, 2013.



Contributed Presentations

- “Neutron Facilities at the University of Kentucky Accelerator Laboratory.” E. E. Peters, Neutron and Gamma Beams Working Group at the 2024 Low-Energy Community Meeting, University of Tennessee, Knoxville, TN, oral
- “Reinventing Recitation” E. E. Peters, Biennial Conference on Chemical Education 2024, University of Kentucky, Lexington, KY, oral
- “Probing nuclei with fast neutrons at the University of Kentucky Accelerator Laboratory: Data for pure and applied science.” E. E. Peters, Neutron and Gamma Beams Working Group at the 2023 Low-Energy Community Meeting, FRIB, East Lansing, MI, virtual, oral
- “Probing nuclei with fast neutrons at the University of Kentucky Accelerator Laboratory: Data for pure and applied science.” E. E. Peters, Opportunities for Neutron Induced Reaction Studies meeting in planning for the NSAC Long Range Plan, 2022, virtual, oral
- “Studies of the Stable Xe Isotopes from Inelastic Neutron Scattering and Shell Model Calculations.” E.E. Peters, B.P. Crider, A.D. Stuchbery, P. Van Isacker, S.W. Yates. APS Fall Meeting of the Division of Nuclear Physics 2018, Waikoloa, HI, oral
- “The Structure of the Stable Xe Isotopes from Inelastic Neutron Scattering and Shell Model Calculations.” E.E. Peters, B.P. Crider, T.J. Ross, A.E. Stuchbery, S.W. Yates. Nuclear Structure 2018, Michigan St. University, East Lansing, MI, oral
- “Level lifetimes and the nuclear structure of $^{134,136}\text{Xe}$ from inelastic neutron scattering.” E.E. Peters, A. Chakraborty, B.P. Crider, T. J. Ross, S.F. Ashley, E. Elhami, S.F. Hicks, A. Kumar, S.H. Liu, M.T. McEllistrem, S. Mukhopadhyay, J.N. Orce, F.M. Prados-Estévez, S. W. Yates. APS Fall Meeting of the Division of Nuclear Physics 2017, Pittsburgh, PA, oral
- “Probing the structure of the stable Xe isotopes with inelastic neutron scattering.” E. E. Peters, T. J. Ross, B. P. Crider, M. T. McEllistrem, and S. W. Yates. 16th International Symposium on Capture Gamma-ray Spectroscopy and Related Topics 2017, Shanghai, China, oral
- “The University of Kentucky Accelerator Laboratory.” E. E. Peters. ARUNA workshop at the Low-energy Community Meeting 2016, University of Notre Dame, Notre Dame, IN, oral











- “Revealing the structure of ^{106}Pd .” E. E. Peters, F. M. Prados-Estévez, A. Chakraborty, M. G. Mynk, S. N. Choudry, B. P. Crider, P. E. Garrett, D. Bandyopadhyay, S. F. Hicks, A. Kumar, S. R. Leshner, C. J. McKay, M. T. McEllistrem, J. N. Orce, M. Scheck, J. R. Vanhoy, J. L. Wood, and S. W. Yates. Nuclear Structure 2016, Knoxville, TN, poster
- “The search for an E(5) critical-point nucleus among the stable xenon isotopes.” E.E. Peters, T.J. Ross, A. Chakraborty, B.P. Crider, A. Kumar, F.M. Prados-Estévez, S.F. Ashley, M.T. McEllistrem, and S.W. Yates. APS Fall Meeting of the Division of Nuclear Physics 2015, Santa Fe, NM, oral
- “Nuclear Photography.” E.E. Peters. University of Kentucky Postdoctoral Symposium 2015, Lexington, KY, oral
- “The structure of $^{132,134}\text{Xe}$ from inelastic neutron scattering measurements.” E.E. Peters, T.J. Ross, A. Chakraborty, B.P. Crider, A. Kumar, M.T. McEllistrem, F.M. Prados-Estévez, S.W. Yates. 2015 Gordon Research Conference on Nuclear Chemistry, New London, NH, poster
- “Inelastic neutron scattering studies of $^{132,134}\text{Xe}$: Elucidating structure in a transitional region and possible interferences for $0\nu\beta\beta$ searches.” E. E. Peters, T. J. Ross, A. Chakraborty, B. P. Crider, A. Kumar, M. T. McEllistrem, F. M. Prados-Estévez, S. W. Yates. 15th International Symposium on Capture Gamma-ray Spectroscopy and Related Topics 2014, Dresden, Germany, oral
- “The nuclear structure of $^{132,134}\text{Xe}$: Relevance to shape transitions and neutrinoless double-beta decay.” Erin E. Peters, Anagha Chakraborty, Benjamin P. Crider, Ajay Kumar, Marcus T. McEllistrem, Francisco M. Prados-Estévez, Timothy J. Ross, Steven W. Yates. ACS National Meeting August 2014, San Francisco, CA, oral
- “The University of Kentucky Accelerator Laboratory.” E. E. Peters. ARUNA Workshop 2014, University of Notre Dame, Notre Dame, IN, oral
- “Level lifetimes in $^{132,134}\text{Xe}$ from inelastic neutron scattering.” E. E. Peters, A. Chakraborty, B. P. Crider, A. Kumar, F. M. Prados-Estévez, S. F. Ashley, M. T. McEllistrem, S. W. Yates. APS Fall Meeting of the Division of Nuclear Physics 2013, Newport News, VA, oral
- “Level lifetimes in ^{94}Zr : From anomaly to resolution.” Erin E. Peters, Anagha Chakraborty, Benjamin P. Crider, Ajay Kumar, Marcus T. McEllistrem, Francisco M. Prados-Estévez, Steven W. Yates. 245th ACS National Meeting April 2013, New Orleans, LA, oral
- “The Nuclear Structure of ^{94}Zr : From anomaly to resolution.” Erin E. Peters. University of Kentucky Department of Chemistry seminar, December 7, 2012, oral
- “A New Investigation of ^{94}Zr with the $(n,n'\gamma)$ Reaction.” E. E. Peters, A. Chakraborty, B. P. Crider, A. Kumar, M. T. McEllistrem, F. M. Prados-Estévez, S. W. Yates. APS Fall Meeting of the Division of Nuclear Physics 2012, Newport Beach, CA, oral
- “Low-Lying Structure of $^{132,134}\text{Xe}$ from Inelastic Neutron Scattering.” E. E. Peters, A. Chakraborty, B. P. Crider, A. Kumar, F. M. Prados-Estévez, S. F. Ashley, E. Elhami, S. Mukhopadhyay, J. N. Orce, M. T. McEllistrem, and S. W. Yates. Nuclear Structure 2012, Argonne National Laboratory, IL, poster
- “Low-lying Structure of $^{132,134}\text{Xe}$ from Inelastic Neutron Scattering.” E. E. Peters, A. Chakraborty, B. P. Crider, A. Kumar, F. M. Prados-Estévez, S. F. Ashley, E. Elhami, S. Mukhopadhyay, J. N. Orce, M. T. McEllistrem, S. W. Yates. 14th International Symposium on Capture Gamma-ray Spectroscopy and Related Topics 2011, Guelph, Ontario, Canada, oral
- “Low-lying Structure of ^{132}Xe from Inelastic Neutron Scattering.” E. E. Peters, A. Chakraborty, B. P. Crider, A. Kumar, F. M. Prados-Estévez, S. F. Ashley, M. T. McEllistrem, S. W. Yates. APS Fall Meeting of the Division of Nuclear Physics 2011, East Lansing, MI, oral

- “Low-lying Structure of ^{134}Xe from Inelastic Neutron Scattering.” E. E. Peters, B. P. Crider, S. F. Ashley, M. T. McEllistrem, S. W. Yates. APS Fall Meeting of the Division of Nuclear Physics 2010, Santa Fe, NM, oral
- “Low-lying structure of ^{134}Xe .” Erin E. Peters, Benjamin Crider, Stephen F. Ashley, and Steven W. Yates. 238th ACS National Meeting August 2009, Washington, D.C., oral






Students Mentored

- Lopez, Blake H. Tomas  Undergraduate; summer 2024; NSF-funded project titled "Lifetimes of Excited States in ^{72}Ge from Inelastic Neutron Scattering"
- Martin, Logan D.  Undergraduate; summer-fall 2024; CHE395 course credit for project titled "Inelastic Neutron Scattering Studies of ^{72}Ge "

Awards and Achievements

- 2024  **Ronald T. Pflaum Outstanding Chapter Advisor Award, Alpha Chi Sigma**, Awarded nationally to one chapter advisor each biennium in recognition of ongoing contributions to the success of a collegiate chapter and continuing service to the fraternity
- 2014  **Outstanding Research Award, University of Kentucky, Department of Chemistry**, Awarded to one graduate student per academic year based on research accomplishments.
- 2011 & 2009  **100% Plus Award, University of Kentucky, Department of Chemistry**, Awarded to one graduate student per academic year who is described as going above and beyond the activities of a typical graduate student, e.g., community outreach, service to the department, etc.
- 2006  **Outstanding Chemistry Senior Award, University of the Cumberlands**
- 2005-2006  **Algernon Sydney Sullivan Foundation scholarship**
- 2002-2006  **University of the Cumberlands Presidential scholarship**
- 2005  **A.T. Siler Memorial Award, University of the Cumberlands**, Granted to one female member of the junior class based on academic achievement and service to the university and community.
-  **Gamma Sigma Epsilon, Chemistry honor society** (Grand Alchemist Zeta Gamma Chapter, 2005)
-  **Sigma Pi Sigma, Physics honor society**, (Secretary Chapter #469, 2005)
- 2006  **Kappa Mu Epsilon, Mathematics honor society**

Professional Activities

- ACS  American Chemical Society member, 2005-present
- ACS-NUCL  American Chemical Society Division of Nuclear Chemistry and Technology (NUCL) member, 2007-present
-  Member of the Website Committee of the NUCL Division, 2014-2019
- ACS-Lexington Section  Treasurer of the Lexington Section of the ACS, 2020-2022
-  Chair-elect of the Lexington Section of the ACS, 2022

Professional Activities (continued)

- Chair of the Lexington Section of the ACS, 2023
- Immediate Past Chair of the Lexington Section of the ACS, 2024
- APS ■ American Physical Society, member since 2007
- Nuclear Division of the American Physical Society, member since 2007
- Reviewer ■ Reviewer for Physical Review C, August 2022-present
- Reviewer for US National Science Foundation MRI proposal, May 2019
- ARUNA ■ Association for Research at University Nuclear Accelerators (ARUNA), member since 2013
- ARUNA Laboratory Directors's committee member, Jan. 2024 – present
- AXΣ ■ Alpha Chi Sigma, professional chemistry fraternity, brother since 2015
- Chapter Advisor of the Alpha Gamma Chapter, April 2017 – present
- Leader of the Bluegrass Professional Group, June 2018 – 2020

Service

- Committees ■ University of Kentucky Radiation Safety Committee, member appointed by the University President, July 24, 2024 - June 30, 2027
- University of Kentucky Chemistry Alumni Board, member 2014-present
- Departmental Alumni Relations Committee, University of Kentucky Department of Chemistry, member 2022-2024
- Outreach ■ University of Kentucky Dept. of Chemistry Outreach Coordinator, Aug. 2024-present
- Served as a judge for numerous undergraduate poster competitions and elementary school science fairs
- Organized and participated in demonstration shows at local elementary, middle, and high schools, as well as at UK for National Chemistry Week, "science nights," "STEM days," etc.

References

Available on Request