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}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. 2025 – present — **Assistant Professor** Department of Chemistry, University of Kentucky, Lexington, KY

July 2025 – present — **Director** University of Kentucky Accelerator Laboratory

Jan. 2022 – Dec. 2024 — **Lecturer** Department of Chemistry, University of Kentucky, Lexington, KY

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 — "Elucidating Nuclear Structure with Fast Neutrons and Complementary Techniques," National Science Foundation, Principle Investigator, $449,999, PHY-2514845, 8/1/2025-7/31/2028

Grants Awarded (continued)

- "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, 8/1/2022-7/31/2026
- "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′γ), and (n,γ) Measurements," Department of Energy, Principle Investigator as of Dec. 1, 2023, $149,862 (year 3 only), DE-SC0021424, 12/1/2022-5/31/2025

Publications

Peer-Reviewed Publications

1. J. T. H. Dowie, T. Kibédi, **E. E. Peters**, and S. W. Yates, "Level lifetimes in ^{52}Cr from DSAM following inelastic neutron scattering: Implications for shape coexistence and Eo strengths," *EPJ Web Conf.*, vol. 329, p. 01 011, Jun. 2025. DOI: 10.1051/epjconf/202532901011.

2. J. Henderson, J. Heery, M. Rocchini, M. Siciliano, N. Sensharma, A. D. Ayangeakaa, R. V. F. Janssens, T. M. Kowalewski, Abhishek, P. D. Stevenson, E. Yüksel, B. A. Brown, T. R. Rodriguez, L. M. Robledo, C. Y. Wu, S. Kisyov, C. Müller-Gatermann, V. Bildstein, L. Canete, C. M. Campbell, S. Carmichael, M. P. Carpenter, W. N. Catford, P. Copp, C. Cousins, M. Devlin, D. T. Doherty, P. E. Garrett, U. Garg, L. P. Gaffney, K. Hadynska-Klek, D. J. Hartley, S. F. Hicks, H. Jayatissa, S. R. Johnson, D. Kalaydjieva, F. Kondev, D. Lascar, T. Lauritsen, G. Lotay, N. Marchini, M. Matejska-Minda, S. Nandi, A. Nannini, C. O'Shea, S. Pascu, C. J. Paxman, A. Perkoff, **E. E. Peters**, Z. Podolyák, A. Radich, R. Rathod, B. J. Reed, P. H. Regan, W. Reviol, E. Rubino, R. Russell, D. Seweryniak, J. R. Vanhoy, G. L. Wilson, K. Wrzosek-Lipska, S. W. Yates, and I. Zanon, "Deformation and collectivity in doubly magic ^{208}Pb," *Phys. Rev. Lett.*, vol. 134, p. 062 502, 6 Feb. 2025. DOI: 10.1103/PhysRevLett.134.062502.

3. S. F. Hicks, R. L. Pecha, T. J. Howard, A. J. French, Z. C. Santonil, J. R. Vanhoy, A. P. D. Ramirez, **E. E. Peters**, S. H. Liu, F. M. Prados-Estévez, T. J. Ross, B. P. Crider, and S. W. Yates, "Cross sections for the ^{54}Fe(n,n′)^{54}Fe and ^{54}Fe(n,p′)^{54}Mn reactions deduced from the detection of de-excitation γ rays," *EPJ Web Conf.*, vol. 329, Jun. 2025. DOI: 10.1051/epjconf/202532905001.

4. K. R. Mashtakov, P. E. Garrett, B. Olaizola, C. Andreoiu, G. C. Ball, P. Bender, V. Bildstein, A. Chester, D. S. Cross, H. Dawkins, G. A. Demand, A. Diaz-Varela, G. Deng, A. B. Garnsworthy, G. Hackman, B. Hadinia, B. Jigmeddorj, A. T. Laffoley, M. Moukaddam, J. Park, **E. Peters**, A. J. Radich, M. Rajabali, E. T. Rand, U. Rizwan, B. Singh, K. Starosta, C. E. Svensson, P. Voss, Z.-M. Wang, J. L. Wood, and S. W. Yates, "A β-decay study of the low-spin structure of ^{98}Zr," *Acta Phys. Pol. B Proc. Suppl.*, vol. 18, 2–A21, Apr. 2025. DOI: 10.1051/epjconf/202532901012.

5. K. R. Mashtakov, P. E. Garrett, B. Olaizola, C. Andreoiu, G. C. Ball, P. Bender, V. Bildstein, A. Chester, D. S. Cross, H. Dawkins, G. A. Demand, A. Diaz-Varela, G. Deng, A. B. Garnsworthy, G. Hackman, B. Hadinia, A. T. Laffoley, M. Moukaddam, J. Park, **E. Peters**, A. J. Radich, M. Rajabali, E. T. Rand, U. Rizwan, B. Singh, K. Starosta, C. E. Svensson, P. Voss, Z.-M. Wang, J. L. Wood, and S. W. Yates, "Unveiling new states in ^{98}Zr: Insights from β-decay and $\gamma - \gamma$ angular-correlation studies," *EPJ Web Conf.*, vol. 329, p. 01 012, Jun. 2025. DOI: 10.1051/epjconf/202532901012.

6. **E. E. Peters**, S. W. Yates, B. A. Brown, A. P. D. Ramirez, and S. Mukhopadhyay, "The nuclear structure of ^{74}Ge from inelastic neutron scattering," *EPJ Web Conf.*, vol. 329, p. 01 005, Jun. 2025. DOI: 10.1051/epjconf/202532901005.

7. I. Z. Piętka, K. Wrzosek-Lipska, P. E. Garrett, M. Zielińska, L. Próchniak, A. Nannini, M. Rocchini, T. Abraham, P. Aguilera, Z. T. Ahmed, J. M. Allmond, F. Angelini, M. Balogh, F. L. Bello Garrote, J. Benito, H. Bidaman, V. Bildstein, D. Brugnara, S. Buck, C. Burbadge, S. Carollo, J. Cederkäll,

M. Chiari, R. Coleman, G. Colombi, G. Colucci, A. Diaz Varela, D. T. Doherty, S. Dutt, F. Ercolano, A. Ertoprak, R. Escudeiro, F. Galtarossa, A. Goasduff, B. Góngora-Servín, A. Gottardo, A. Gozzelino, B. Greaves, K. Hadyńska-Klęk, J. Heery, S. F. Hicks, Z. Huang, D. Hymers, A. Illana, J. Iwanicki, G. Jaworski, B. Jigmeddorj, D. Kalaydjieva, M. Kisieliński, R. Kjus, M. Komorowska, N. Kopeć, M. Kowalczyk, J. Kowalska, K. Z. Krutul-Bitowska, R. Kumar, A. Mai Quynh, N. Marchini, T. Marchlewski, K. R. Mashtakov, M. Matejska-Minda, D. Mengoni, C. Michelagnoli, P. J. Napiorkowski, D. R. Napoli, B. Olaizola, M. Palacz, S. Pannu, E. Pasquali, J. Pellumaj, **E. E. Peters**, R. M. Pérez-Vidal, S. Pigliapoco, E. Pilotto, F. Recchia, K. Rezynkina, E. Sahin, J. Samorajczyk-Pyśk, M. Saxena, M. Sedlák, J. Srebrny, A. Stolarz, K. Stoychev, C. E. Svensson, A. Tucholski, A. Trzcińska, S. Valbuena, J. J. Valiente-Dobón, J. L. Wood, S. W. Yates, L. Zago, I. Zanon, G. Zhang, and T. Zidar, "A β-decay study of the low-spin structure of ^{98}Zr," *Acta Phys. Pol. B Proc. Suppl.*, vol. 18, 2–A26, Apr. 2025. DOI: 10.1051/epjconf/202532901012.

8 J. R. Vanhoy, A. S. Perkoff, S. F. Hicks, S. Vajdic, D. S. Araya, B. P. Crider, J. C. Marsh, **E. E. Peters**, Y. Xiao, and S. W. Yates, "Neutron elastic scattering differential cross sections on ^{13}C," *EPJ Web Conf.*, vol. 329, p. 05 004, Jun. 2025. DOI: 10.1051/epjconf/202532905004.

9 **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.

10 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. Pellegri, **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.

11 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.

12 S. R. Lesher, 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.

13 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.

14 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.

15 T. Beck, V. Werner, N. Pietralla, M. Bhike, 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-Estevez, 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.

16 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.

17 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.

18 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.

19 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.

20 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.

21 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.

22 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.

23 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.

24 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. Kisliuk, 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.

25 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. Shadrick, **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.

26 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.

27 **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.

28 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.

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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.

11 V. Werner, N. M. Cooper, P. M. Goddard, M. K. Smith, D. Savran, S. W. Yates, B. P. Crider, **E. E. Peters**, A. Chakraborty, A. P. Tonchev, G. Rusev, W. Tornow, K. H. Kelley, E. Kwan, R. Raut, F. Reichel, N. Pietralla, C. Romig, M. Scheck, M. Fritzsche, J. Beller, M. Zweidinger, and K. Sonnabend, "Dipole response of ^{76}Se up to 9 MeV," in *Proceedings of the Fourteenth International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics, World Scientific Publishing Co. Pte. Ltd.*, 2013, p. 421.

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Invited Presentations

- "An Update on Neutron Science at the University of Kentucky Accelerator Laboratory" Argonne National Laboratory Physics Division Seminar, June 2, 2025.
- "Elucidating the Ge nuclei with the shell model." Symposium in Honor of the 75^{th} 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." 17^{th} 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}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

- "Looking to the Future of UKAL (University of Kentucky Accelerator Laboratory)" E. E. Peters, Neutron and Gamma Beams Working Group at the 2025 Low-Energy Community Meeting, Texas A&M University, College Station, TX, oral
- "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}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. 16^{th} 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. Lesher, 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}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}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. 15^{th} International Symposium on Capture Gamma-ray Spectroscopy and Related Topics 2014, Dresden, Germany, oral
- "The nuclear structure of ^{132,134}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-Estevez, 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}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. 245^{th} 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}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}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. 14^{th} 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. 238^{th} ACS National Meeting August 2009, Washington, D.C., oral

Students Mentored

Anders, Thomas C.	U. Dallas undergraduate; summer 2025; NSF-funded project titled "Optimizing the Digital Data Acquisition System at the University of Kentucky Accelerator Laboratory"
Kelly, Andrew J.	U. Dallas undergraduate; summer 2025; NSF-funded project titled "Upgrading the UKAL Facility for Improved γ-ray Spectroscopy"
Lopez, Blake H. Tomas	U. Kentucky undergraduate; summer 2024; NSF-funded project titled "Lifetimes of Excited States in ^{72}Ge from Inelastic Neutron Scattering"
Martin, Logan D.	U. Kentucky undergraduate; May 2024 - May 2025; CHE395 course credit for project titled "Inelastic Neutron Scattering Studies of ^{72}Ge"

Awards and Achievements

2025	**Outstanding Teaching Award, University of Kentucky College of Arts & Sciences**, Awarded annually in recognition of excellence and outstanding contributions in undergraduate and graduate teaching in all aspects
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**

Awards and Achievements (continued)

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

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 Physical Review Letters, October 2025-present

Reviewer for European Journal of Physics A, July 2025-present

Reviewer for US National Science Foundation MRI proposals, 2019, 2024

ARUNA — Association for Research at University Nuclear Accelerators (ARUNA), member since 2013

ARUNA Laboratory Directors's committee member, Jan. 2024 – present

$AX\Sigma$ — 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

Service (continued)

- Departmental Graduate Student Recruiting Committee, University of Kentucky Department of Chemistry, member August 2025-present
- Departmental Faculty Search Committee, University of Kentucky Department of Chemistry, member August 2025-present
- Departmental Alumni Relations Committee, University of Kentucky Department of Chemistry, member 2022-2024

Outreach

- University of Kentucky Dept. of Chemistry Outreach Coordinator, 2024-2025
- 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