

# Charles "Cody" M. Folden III

Cyclotron Institute, Texas A&M University  
3366 TAMU  
College Station, TX 77843-3366 USA  
[cyclotron.tamu.edu/folden](http://cyclotron.tamu.edu/folden)

Tel: +1-979-845-1411  
Fax: +1-979-845-1899  
Researcher ID: [F-1033-2015](https://orcid.org/0000-0002-2814-3762)  
ORCID: [0000-0002-2814-3762](https://orcid.org/0000-0002-2814-3762)

## EDUCATION

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- Ph.D., Chemistry, University of California, Berkeley, November 2004  
Research Advisor: Darleane C. Hoffman  
Thesis Title: *Development of Odd-Z-Projectile Reactions for Transactinide Element Synthesis*
- B.S., Chemistry (with Honors), Vanderbilt University, Nashville, Tennessee, May 1999 (Magna Cum Laude)  
Research Advisor: Sandra J. Rosenthal  
Thesis Title: *Surface Studies and Size-Independent Extinction Coefficients of CdSe Nanocrystals*

## EXPERIENCE

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- 2016-Present Associate Professor of Nuclear Chemistry, College of Science, Texas A&M University (College Station, Texas, USA)  
*Research focuses on the study of nuclear reactions, chemical properties of heavy and superheavy elements, and nuclear forensics.*
- 2008-2016 Assistant Professor of Nuclear Chemistry, College of Science, Texas A&M University (College Station, Texas, USA)  
*Developed a new program at the Texas A&M University Cyclotron Institute to study the production, decay, and chemistry of the heaviest elements. Research focused on the survival of excited, spherical nuclei; developing chemical systems that could be applied superheavy elements; and nuclear forensics.*
- 2006-2008 Visiting Research Associate, National Superconducting Cyclotron Laboratory, Michigan State University (East Lansing, Michigan, USA); David J. Morrissey and Bradley M. Sherrill, Advisors  
*Developed techniques for the production of new secondary radioactive beams, and for the stopping and collection of relativistic fragments.*
- 2004-2006 Associate Specialist, Level III, Department of Chemistry, University of California (Berkeley, California, USA); Heino Nitsche, Advisor  
*Conducted experiments in radiochemical separations and target preparation for neutron-capture experiments.*
- 1999-2004 Graduate Student Research Assistant, University of California, Berkeley and Lawrence Berkeley National Laboratory (Berkeley, California, USA); Darleane C. Hoffman, Advisor  
*Designed and performed experiments to investigate the production of very heavy nuclei.*

## AWARDS

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- DOE Early Career Award (2012).
- Montague-Center for Teaching Excellence Scholar for the Texas A&M University College of Science (AY 2011-2012).
- Alexander von Humboldt Fellowship for Postdoctoral Researchers (2006, awarded but not accepted).
- Finalist to represent the United States at the International Chemistry Olympiad (1994).

## AFFILIATIONS

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- American Chemical Society (Division of Nuclear Chemistry and Technology).
- American Physical Society (Division of Nuclear Physics).

## PEER-REVIEWED MANUSCRIPTS PUBLISHED OR ACCEPTED

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\* Indicates graduate or undergraduate student mentee.

1. J. M. Osborn\*, E. D. Kitcher, S. S. Chirayath, C. M. Folden III, and J. D. Burns, *Nuclear Forensics Methodology Development for Reactor-Type Attribution of Chemically Separated Plutonium*, Nucl. Tech. **200**(1), 1-10 (2017). ([link](#))
2. D. A. Mayorov, E. E. Tereshatov, T. A. Werke, M. M. Frey\*, C. M. Folden III, *Heavy-Ion Beam Induced Effects in Enriched Gadolinium Target Films Prepared by Molecular Plating*, Nucl. Instrum. Methods B **407**, 256-264 (2017). ([link](#))
3. N. Nica, J. C. Hardy, V. E. Iacob, T. A. Werke, C. M. Folden III, L. Pineda and M. B. Trzhaskovskaya, *Test of Internal-Conversion Theory with a Measurement in  $^{111}\text{Cd}$* , EPJ Web Conf. **146**, 10004 (2017). ([link](#))
4. N. Nica, J. C. Hardy, V. E. Iacob, T. A. Werke, C. M. Folden III, K. Ofodile, and M. B. Trzhaskovskaya, *Precise Measurement of  $\alpha_K$  and  $\alpha_L$  for the 109.3-keV M4 Transition in  $^{125}\text{Te}$ : Test of Internal-Conversion Theory*, Phys. Rev. C **95**, 064301 (2017). ([link](#))
5. M. W. Swinney\*, C. M. Folden III, R. J. Ellis, and S. S. Chirayath, *Experimental and Computational Forensics Characterization of Weapons-Grade Plutonium Produced in a Fast Reactor Neutron Environment*, Nucl. Technol. **197**, 1-11 (2017). ([link](#))
6. P. M. Mendoza\*, S. S. Chirayath, and C. M. Folden III, *Fission Product Decontamination Factors for Plutonium Separated by PUREX from Low-Burnup, Fast-Neutron Irradiated Depleted  $\text{UO}_2$* , Appl. Radiat. Isotopes **118**, 38-42 (2016). ([link](#))
7. E. E. Tereshatov, M. Yu. Boltoeva, and C. M. Folden III, *First Evidence of Metal Transfer into Hydrophobic Deep Eutectic Mixtures: Indium Extraction from Hydrochloric and Oxalic Acids*, Green Chem. **18**, 4616-4622 (2016). ([link](#))
8. V. Mazan M. Yu. Boltoeva, E. E. Tereshatov, and C. M. Folden III, *Mutual Solubility of Water and Hydrophobic Ionic Liquids in the Presence of Hydrochloric Acid*, RSC Adv. **6**, 56260-56270 (2016). ([link](#))

9. N. Nica, J. C. Hardy, V. E. Iacob, T. A. Werke\*, C. M. Folden III, L. Pineda, and M. B. Trzhaskovskaya, *Precise Measurement of  $\alpha_K$  and  $\alpha_T$  for the 150.8-keV  $E3$  Transition in  $^{111}\text{Cd}$ : Test of Internal Conversion Theory*, Phys. Rev. C **93**, 034305 (2016). ([link](#))
10. M. C. Alfonso\*, M. E. Bennett, and C. M. Folden III, *Extraction Chromatography of the Rf Homologs Zr and Hf Using the TEVA and UTEVA Resins from HCl, HNO<sub>3</sub>, and H<sub>2</sub>SO<sub>4</sub>*, J. Radioanal. Nucl. Chem. **307**, 1529-1536 (2016). ([link](#))
11. E. E. Tereshatov, M. Yu. Boltoeva, V. Mazan, M. F. Volia\*, and C. M. Folden III, *Thallium Transfer from Hydrochloric Acid Media Into Pure Ionic Liquids*, J. Phys. Chem. B **120**, 2311-2322 (2016). ([link](#))
12. T. A. Werke\*, D. A. Mayorov\*, M. C. Alfonso\*, E. E. Tereshatov, and C. M. Folden III, *Hot Fusion-Evaporation Cross Sections of  $^{44}\text{Ca}$ -Induced Reactions with Lanthanide Targets*, Phys. Rev. C **92**, 054617 (2015). ([link](#))
13. D. A. Mayorov\*, T. A. Werke\*, M. C. Alfonso\*, E. E. Tereshatov, M. E. Bennett, M. M. Frey\*, and C. M. Folden III, *Evaporation Residue Excitation Function Measurements in  $^{50}\text{Ti}$ - and  $^{54}\text{Cr}$ -Induced Reactions with Lanthanide Targets*, Phys. Rev. C **92**, 054601 (2015). ([link](#))
14. T. A. Werke\*, D. A. Mayorov\*, M. C. Alfonso, M. E. Bennett, M. J. DeVanzo\*, M. M. Frey\*, E. E. Tereshatov, and C. M. Folden III, *Hot Fusion-Evaporation Cross Sections of  $^{45}\text{Sc}$ -Induced Reactions with Lanthanide Targets*, Phys. Rev. C **92**, 034613 (2015). ([link](#))
15. E. E. Tereshatov, M. Yu. Boltoeva, and C. M. Folden III, *Resin Ion Exchange and Liquid-Liquid Extraction of Indium and Thallium from Chloride Media*, Solvent Extr. Ion Exc. **33**(6), 607-624 (2015). ([link](#))
16. M. C. Alfonso\*, E. E. Tereshatov, M. J. DeVanzo\*, J. A. Sefcik\*, M. E. Bennett, D. A. Mayorov\*, T. A. Werke\*, and C. M. Folden III, *New Recoil Transfer Chamber for Thermalization of Heavy Ions Produced in Fusion-Evaporation Reactions*, Nucl. Instrum. Methods A **798**, 52-61 (2015). ([link](#))
17. D. A. Mayorov\*, T. A. Werke\*, M. C. Alfonso\*, M. E. Bennett, and C. M. Folden III, *Production Cross Sections of Elements Near the  $N = 126$  Shell in  $^{48}\text{Ca}$ -Induced Reactions with  $^{154}\text{Gd}$ ,  $^{159}\text{Tb}$ ,  $^{162}\text{Dy}$  and  $^{165}\text{Ho}$  Targets*, Phys. Rev. C **90**, 024602 (2014). ([link](#))
18. M. E. Bennett, M. C. Alfonso\*, J. P. Greene, and C. M. Folden III, *Heavy Element Chemistry Facilities at Texas A&M University*, J. Radioanal. Nucl. Chem. **299**, 1107-1112 (2014). ([link](#))
19. C. M. Folden III, D. A. Mayorov\*, T. A. Werke\*, M. C. Alfonso\*, M. E. Bennett, and M. J. DeVanzo\*, *Prospects for the Discovery of the Next New Element: Influence of Projectiles with  $Z > 20$* , J. Phys. Conf. Ser. **420**, 012007 (2013). ([link](#))
20. C. M. Folden III, M. C. Alfonso\*, D. A. Mayorov\*, K. R. Lawrence\*, A. A. Alharbi, E. Berdugo\*, P. J. Cammarata\*, A. C. Raphelt\*, B. T. Roeder, and T. A. Werke\*, *Development of the MARS Separator for Heavy Element Studies*, Nucl. Instrum. Methods A **678**, 1-7 (2012). ([link](#))
21. M. E. Bennett, D. A. Mayorov\*, K. D. Chapkin\*, M. C. Alfonso\*, T. A. Werke\*, and C. M. Folden III, *Measurement of the  $^{nat}\text{Lu}(p,X)^{175}\text{Hf}$  Excitation Function*, Nucl. Instrum. Methods B **276**, 62-65 (2012). ([link](#))
22. R. Ringle, C. Bachelet, B. R. Barquest, M. Block, G. Bollen, C. M. Campbell, M. Facina, R. Ferrer, C. M. Folden III, C. Guénaut, E. Kwan, A. A. Kwiatkowski, D. L. Lincoln, D. J. Morrissey, G. K. Pang, A. M. Prinke, J. Savory, P. Schury, S. Schwarz, and C. S. Sumithrarachchi, *High-Precision Penning Trap*

*Mass Measurements of ‘Difficult’ Elements Produced via Projectile Fragmentation with LEBIT*, *Hyperfine Interact.* **199**, 251-259 (2011). ([link](#))

23. R. Ferrer, M. Block, C. Bachelet, C. M. Campbell, M. Facina, [C. M. Folden III](#), C. Guénaut, S. Schwarz, B. Barquest, G. Bollen, A. A. Kwiatkowski, D. L. Lincoln, A. M. Prinke, R. Ringle, J. Savory, and P. Schury, D. J. Morrissey and G. K. Pang, *Penning Trap Mass Spectrometry of Neutron-Rich Fe and Co Isotopes Around  $N=40$  with the LEBIT Mass Spectrometer*, *Phys. Rev. C* **81**, 044318 (2010). ([link](#))
24. R. Ringle, C. Bachelet, M. Block, G. Bollen, M. Facina, [C. M. Folden III](#), C. Guénaut, A. A. Kwiatkowski, D. J. Morrissey, G. K. Pang, A. M. Prinke, J. Savory, P. Schury, S. Schwarz, and C. S. Sumithrarachchi, *High-Precision Penning Trap Mass Measurements of Neutron-Rich Sulfur Isotopes at the  $N=28$  Shell Closure*, *Phys. Rev. C* **80**, 064321 (2009). ([link](#))
25. A. A. Kwiatkowski, B. R. Barquest, G. Bollen, C. M. Campbell, D. L. Lincoln, D. J. Morrissey, G. K. Pang, A. M. Prinke, J. Savory, S. Schwarz, [C. M. Folden III](#), D. Melconian, S. K. L. Sjøe, and M. Block, *Precision Test of the Isobaric Multiplet Mass Equation for the  $A = 32$ ,  $T = 2$  Quintet*, *Phys. Rev. C* **80**, 051302(R) (2009). ([link](#))
26. [C. M. Folden III](#), A. S. Nettleton, A. M. Amthor, T. N. Ginter, M. Hausmann, T. Kubo, W. D. Loveland, S. L. Manikonda, D. J. Morrissey, T. Nakao, M. Portillo, B. M. Sherrill, G. A. Souliotis, B. F. Strong, H. Takeda, and O. B. Tarasov, *New Neutron-Rich Microsecond Isomers Observed Among Fission Products of  $^{238}\text{U}$  at 80 MeV/nucleon*, *Phys. Rev. C* **79**, 064318 (2009). ([link](#))
27. S. Schwarz, M. Block, G. Bollen, C. M. Campbell, M. Facina, R. Ferrer, [C. M. Folden III](#), A. A. Kwiatkowski, D. J. Morrissey, G. K. Pang, A. M. Prinke, R. J. Ringle, J. Savory, and P. H. Schury, *Precision Penning Trap Mass Measurements of Rare Isotopes Produced by Projectile Fragmentation*, *Eur. Phys. J. A* **42**, 323-326 (2009). ([link](#))
28. J. Savory, P. Schury, C. Bachelet, M. Block, G. Bollen, M. Facina, [C. M. Folden III](#), C. Guénaut, E. Kwan, A. A. Kwiatkowski, D. J. Morrissey, G. K. Pang, A. Prinke, R. Ringle, H. Schatz, S. Schwarz, and C. S. Sumithrarachchi,  *$rp$  Process and Masses of  $N \approx Z \approx 34$  Nuclides*, *Phys. Rev. Lett.* **102**, 132501 (2009). ([link](#))
29. [C. M. Folden III](#), I. Dragojević, Ch. E. Düllmann, R. Eichler, M. A. Garcia, J. M. Gates, S. L. Nelson, R. Sudowe, K. E. Gregorich, D. C. Hoffman, and H. Nitsche, *Measurement of the  $^{208}\text{Pb}(^{52}\text{Cr}, n)^{259}\text{Sg}$  Excitation Function*, *Phys. Rev. C* **79**, 027602 (2009). ([link](#))
30. Ch. E. Düllmann, K. E. Gregorich, G. K. Pang, I. Dragojevic, R. Eichler, [C. M. Folden III](#), M. A. Garcia, J. M. Gates, D. C. Hoffman, S. L. Nelson, R. Sudowe, and H. Nitsche, *Gas Chemical Investigation of Hafnium and Zirconium Complexes with Hexafluoroacetylacetone Using Preseparated Short-Lived Radioisotopes*, *Radiochim. Acta* **97**, 403-418 (2009). ([link](#))
31. M. Facina, C. Bachelet, M. Block, G. Bollen, D. Davies, [C. M. Folden III](#), C. Guénaut, J. Huikari, E. Kwan, D. J. Morrissey, G. K. Pang, A. Prinke, R. Ringle, J. Savory, P. Schury, S. Schwarz, C. Sumithrarachchi, T. Sun, *Charged Particle Transport and Extraction Studies in the NSCL Gas Cell for Stopping Radioactive Fragments*, *Nucl. Instrum. Methods B* **266**, 4471-4474 (2008). ([link](#))
32. M. Block, C. Bachelet, G. Bollen, M. Facina, [C. M. Folden III](#), C. Guénaut, A. A. Kwiatkowski, D. J. Morrissey, G. K. Pang, A. Prinke, R. Ringle, J. Savory, P. Schury, and S. Schwarz, *Mass Measurements of Rare Isotopes with the LEBIT Facility at the NSCL*, *Nucl. Instrum. Methods B* **266**, 4521-4526 (2008). ([link](#))

33. J. M. Gates, S. L. Nelson, K. E. Gregorich, I. Dragojević, Ch. E. Düllmann, P. A. Ellison, C. M. Folden III, M. A. Garcia, L. Stavsetra, R. Sudowe, D. C. Hoffman, and H. Nitsche, *Comparison of Reactions for the Production of  $^{258,257}\text{Db}$ ,  $^{208}\text{Pb}(^{51}\text{V},xn)$  and  $^{209}\text{Bi}(^{50}\text{Ti},xn)$* , Phys. Rev. C **78**, 034604 (2008). ([link](#))
34. S. L. Nelson, C. M. Folden III, K. E. Gregorich, I. Dragojević, Ch. E. Düllmann, R. Eichler, M. A. Garcia, J. M. Gates, R. Sudowe, and H. Nitsche, *Comparison of Complementary Reactions for the Production of  $^{261,262}\text{Bh}$* , Phys. Rev. C **78**, 024606 (2008). ([link](#))
35. J. M. Gates, M. A. Garcia, K. E. Gregorich, Ch. E. Düllmann, I. Dragojević, J. Dvorak, R. Eichler, C. M. Folden III, W. Loveland, S. L. Nelson, G. K. Pang, L. Stavsetra, R. Sudowe, A. Türler, and H. Nitsche, *Synthesis of Rutherfordium Isotopes in the  $^{238}\text{U}(^{26}\text{Mg}, xn)^{264-x}\text{Rf}$  Reaction and Study of Their Decay Properties*, Phys. Rev. C **77**, 034603 (2008). ([link](#))
36. M. Block, C. Bachelet, G. Bollen, M. Facina, C. M. Folden III, C. Guénaut, A. A. Kwiatkowski, D. J. Morrissey, G. K. Pang, A. Prinke, R. Ringle, J. Savory, P. Schury, and S. Schwarz, *Discovery of a Nuclear Isomer in  $^{65}\text{Fe}$  with Penning Trap Mass Spectrometry*, Phys. Rev. Lett. **100**, 132501 (2008). ([link](#))
37. G. Bollen, C. Bachelet, M. Block, D. A. Davies, M. Facina, C. M. Folden III, C. Guénaut, J. Huikari, E. Kwan, A. Kwiatkowski, D. J. Morrissey, G. Pang, A. Prinke, R. Ringle, J. Savory, P. Schury, S. Schwarz, C. Sumithrarachchi, and T. Sun, *Penning Trap Mass Measurements of Rare Isotopes Produced by Projectile Fragmentation with LEBIT at NSCL*, Eur. Phys. J.-Spec. Top. **150**, 337-341 (2007). ([link](#))
38. T. Baumann, A. M. Amthor, D. Bazin, B. A. Brown, C. M. Folden III, A. Gade, T. N. Ginter, M. Hausmann, M. Matoš, D. J. Morrissey, M. Portillo, A. Schiller, B. M. Sherrill, A. Stolz, O. B. Tarasov, and M. Thoennessen, *Discovery of  $^{40}\text{Mg}$  and  $^{42}\text{Al}$  Suggests Neutron Drip-Line Slant Towards Heavier Isotopes*, Nature (London) **449**, 1022-1024 (2007). ([link](#))
39. O. B. Tarasov, T. Baumann, A. M. Amthor, D. Bazin, C. M. Folden III, A. Gade, T. N. Ginter, M. Hausmann, M. Matos, D. J. Morrissey, A. Nettleton, M. Portillo, A. Schiller, B. M. Sherrill, A. Stolz, and M. Thoennessen, *New Isotope  $^{44}\text{Si}$  and Systematics of the Production Cross Sections of the Most Neutron-Rich Nuclei*, Phys. Rev. C **75**, 064613 (2007). ([link](#))
40. P. Schury, C. Bachelet, M. Block, G. Bollen, D. A. Davies, M. Facina, C. M. Folden III, C. Guénaut, J. Huikari, E. Kwan, A. Kwiatkowski, D. J. Morrissey, R. Ringle, G. K. Pang, A. Prinke, J. Savory, H. Schatz, S. Schwarz, C. S. Sumithrarachchi, and T. Sun, *Precision Mass Measurements of Rare Isotopes Near  $N = Z = 33$  Produced by Fast Beam Fragmentation*, Phys. Rev. C **75**, 055801 (2007). ([link](#))
41. S. Schwarz, C. Bachelet, M. Block, G. Bollen, D. Davies, M. Facina, C. M. Folden III, C. Guénaut, J. Huikari, E. Kwan, A. A. Kwiatkowski, D. J. Morrissey, G. Pang, A. Prinke, R. Ringle, J. Savory, P. Schury, C. Sumithrarachchi, and T. Sun, *The LEBIT Facility at MSU: High-Precision Mass Measurements at a Fragmentation Facility*, Hyperfine Interact. **173**, 113-122 (2006). ([link](#))
42. K. E. Gregorich, J. M. Gates, Ch. E. Düllmann, R. Sudowe, S. L. Nelson, M. A. Garcia, I. Dragojević, C. M. Folden III, S. Neumann, D. C. Hoffman, and H. Nitsche, *New Isotope  $^{264}\text{Sg}$  and Decay Properties of  $^{262-264}\text{Sg}$* , Phys. Rev. C **74**, 044611 (2006). ([link](#))
43. R. Eichler, W. Bröchle, R. Buda, S. Bürger, R. Dressler, Ch. E. Düllmann, J. Dvorak, K. Eberhardt, B. Eichler, C. M. Folden III, H. W. Gäggeler, K. E. Gregorich, F. Haenssler, D. C. Hoffman, H. Hummrich, E. Jäger, J. V. Kratz, B. Kuczewski, D. Liebe, D. Nayak, H. Nitsche, D. Piguët, Z. Qin, U. Rieth, M. Schädel, B. Schausten, E. Schimpf, A. Semchenkov, S. Soverna, R. Sudowe, N. Trautmann, P. Thörle, A. Türler, B. Wierczinski, N. Wiehl, P. A. Wilk, G. Wirth, A. B. Yakushev and A. von Zweidorf, *Attempts to Chemically Investigate Element 112*, Radiochim. Acta **94**, 181-191 (2006).

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45. R. Sudowe, M. G. Calvert, Ch. E. Düllmann, L. M. Farina, [C. M. Folden III](#), K. E. Gregorich, S. E. H. Gallaher, D. C. Hoffman, S. L. Nelson, D. C. Phillips, J. M. Schwantes, R. E. Wilson, P. M. Zielinski and H. Nitsche, *Extraction of Short-Lived Zirconium and Hafnium Isotopes Using Crown Ethers: A Model System for the Study of Rutherfordium*, Radiochim. Acta **94**, 123-129 (2006). [\(link\)](#)
46. K. E. Gregorich, W. Loveland, D. Peterson, P. M. Zielinski, S. L. Nelson, Y. H. Chung, Ch. E. Düllmann, [C. M. Folden III](#), K. Aleklett, R. Eichler, D. C. Hoffman, J. P. Omtvedt, G. K. Pang, J. M. Schwantes, S. Soverna, P. Sprunger, R. Sudowe, R. E. Wilson, and H. Nitsche, *Attempt to Confirm Superheavy Element Production in the  $^{48}\text{Ca} + ^{238}\text{U}$  Reaction*, Phys. Rev. C **72**, 014605 (2005). [\(link\)](#)
47. L. Stavsetra, K. E. Gregorich, J. Alstad, H. Breivik, K. Eberhardt, [C. M. Folden III](#), T. N. Ginter, M. Johansson, U. W. Kirbach, D. M. Lee, M. Mendel, L. A. Omtvedt, J. B. Patin, G. Skarnemark, R. Sudowe, P. A. Wilk, P. M. Zielinski, H. Nitsche, D. C. Hoffman, and J. P. Omtvedt, *Liquid-Scintillation Detection of Preseparated  $^{257}\text{Rf}$  with the SISAK-System*, Nucl. Instrum. Methods A **543**, 509-516 (2005). [\(link\)](#)
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