LEE G. SOBOTKA

Address: Department of Chemistry, Box 1134
Washington University in St. Louis (WU)
St. Louis, Missouri 63130
Email: lgs@wustl.edu
Phone: (314) 935-5360

Education: B.S. in Chemistry, University of Michigan, Ann Arbor, 1977
Ph.D. in Chemistry, University of California, Berkeley, 1982

Professional History:

1997 - present	Professor of Chemistry and Physics, WU
1989 - 1997	Associate Professor of Chemistry and Physics, WU
1984 - 1989	Assistant Professor of Chemistry, WU
1982 - 1984	Postdoctoral Research Associate, Univ. of California-Berkeley & LBNL

Awards and Honors:

1976 -1977	Moses Gomberg Fellowship, University of Michigan
1986 -1991	Presidential Young Investigator Award, NSF
1998	Chairman Nuclear Chemistry Gordon Conference
2008	Outstanding Referee Award (APS)
2010	National American Chemical Society (ACS) Seaborg Award in Nuclear Chemistry
2010	Fellow of the American Physical Society (APS), Division of Nuclear Physics

Professional Associations:

- American Chemical Society (ACS), Nuclear Chemistry and Technology
- American Physical Society (APS), Nuclear Physics Division (DNP)
- Division and NSAC Liaison Committee
- Nuclear Science Long-Range Planning Committee (1989, 2000)
- National Superconducting Cyclotron Laboratory Executive Committee (1987-1990), (2013-2016), chairman (1988-1990)
- Lawrence Berkeley Laboratory 88" Cyclotron PAC (1989 -1994)
- Review Committees:
  SUNY-Nuc. Lab. (1992), LBNL-Nuclear Science Division (1995 -1997)
  TAMU -Cyclotron Institute (1995), ANL-ATLAS (2011)
- Writing committee for various FRIB proposals (2000 - 2005)
- NSAC subcommittee: Implementation of the 2007 Long Range Plan

Research Interest:
The de-excitation modes of highly-excited nuclei; continuum structure of exotic nuclei; nucleosynthesis; dynamics of nuclear fusion and fission; the asymmetry dependence nucleon correlations and the asymmetry dependence of the nuclear equation of state; multi-particle correlations; advanced radiation detectors and the associated electronics including ASIC design; and various applied nuclear science topics.

Synergistic Activities
Long-standing collaborations with: SIUE ASIC design group, WU departments of Radiology and Radiation Oncology. Regular (i.e. annual) technical lectures on nuclear power and waste in A&S (Chemistry, Physics and Environmental Studies) and Engineering courses.

Refereed Publications: ~ 240

1970 - 1979

1. "Isomeric Transitions in ^{204}Pb," L.G. Sobotka, H.C. Griffin, and E.C. Kao, Phys. Rev. C **17**, 816 (1978).

2. "A Scenario for the 220-MeV ^{40}Ar + ^{238}U Reaction," G.J. Mathews, L.G. Sobotka, G.J. Wozniak, R. Regimbart, R.P. Schmitt, G.U. Rattazzi and L.G. Moretto, Z. Physik, A **290**, 407 (1979).

3. "A Theoretical Investigation of Shell Effects in Deep Inelastic Collisions," L.G. Sobotka, G.J. Mathews and L.G. Moretto, Z. Physik, A **292**, 191 (1979).

1980 - 1989

4. "Rise and Fall of Spin Alignment in Deep-Inelastic Reactions," G. Wozniak, R.J. McDonald, A.J. Pacheco, C.C. Hsu, D.J. Morrissey, L.G. Sobotka, L.G. Moretto, S. Shih, C. Schuck, R.M. Diamond, H. Kluge and F.S. Stephens, Phys. Rev. Lett. **45**, 1081 (1980).

5. "Rigid Rotation and L-Wave Fractionation in the Deep Inelastic Reaction: 664 MeV ^{84}Kr + ^{nat}Ag", L.G. Sobotka, C.C. Hsu, G.J. Wozniak, G.U. Rattazzi, R.J. McDonald, A.J. Pacheco, and L.G. Moretto, Phys. Rev. Lett. **46**, 887 (1981).

6. "The Influence of Fluctuations on the Correlation Between Exit-Channel Kinetic Energy and Entrance-Channel Angular Momentum for Heavy Ion Collisions," L.G. Moretto and L.G. Sobotka, Z. Physik. **303**, 299 (1981).

7. "Angular Momentum Transfer and Partition in the Deep-Inelastic Reaction 664 MeV ^{84}Kr + ^{nat}Ag," L.G. Sobotka, C.C. Hsu, G.J. Wozniak, D.J. Morrissey, and L.G. Moretto, Nucl. Phys. A **231**, 510 (1981).

8. "Alpha Particle Emission From the Deep-Inelastic Reaction: 1354 MeV ^{165}Ho + ^{181}Ta," L.G. Sobotka, R.J. McDonald, G.J. Wozniak, D.J. Morrissey, A.J. Pacheco, and L.G. Moretto, Phys. Rev. C **25**, 1693 (1982).

9. "Angular Momentum, Statistical Equilibrium and Sequential Fission in very Asymmetric Systems," D.J. Morrissey, G.J. Wozniak, L.G. Sobotka, A.J. Pacheco, C.C. Hsu, R.J. McDonald and L.G. Moretto, Z. Physik A **30 5**, 131 (1982).

10. "Dependence of the Giant Dipole Strength Function on Excitation Energy," J.E. Draper, J.O. Newton, L.G. Sobotka, H. Lindenberger, G.J. Wozniak, L.G. Moretto, F.S. Stephens, R.M. Diamond and R.J. McDonald, Phys. Rev. Lett. **49**, 434 (1982).

11. "Intrinsic Fragment Spins Generated in the Reactions of ^{20}Ne with ^{197}Au and ^{238}U at 12.6 MeV/Nucleon," D.J. Morrissey, G.J. Wozniak, L.G. Sobotka, A.J. Pacheco, R.J. McDonald, C.C. Hsu, and L.G. Moretto, Nucl. Phys. A **389**, 120 (1982).

12. "Angular Momentum Transfer and Alignment in Deep-Inelastic Reactions for Nearly Symmetric Heavy-Ion Systems," A.J. Pacheco, G.J. Wozniak, R.J. McDonald, R.M. Diamond, C.C. Hsu, L.G. Moretto, D.J. Morrissey, L.G. Sobotka and F.S. Stephens, Nucl. Phys. A **397**, 313 (1983).

13. "Alpha Particle Emission From the Reaction 1354 MeV ^{165}Ho + ^{181}Ta," L.G. Sobotka, R.J. McDonald, G.J. Wozniak, D.J. Morrissey, A.J. Pacheco and L.G. Moretto, Phys. Rev. C **28**, 219 (1983).

14. "Compound Nucleus Decay Via the Emission of Heavy Nuclei," L.G. Sobotka, M.L. Padgett, G.J. Wozniak, G. Guarino, A.J. Pacheco, L.G. Moretto, Y.D. Chan, R. Stokstad, I. Tserruya, and S. Wald, Phys. Rev. Lett. **51**, 2187 (1983).

15. "Large Solid Angle Bragg-Curve Spectrometer," R.J. McDonald, L.G. Sobotka, Z.Q. Yao, G.J. Wozniak, and G. Guarino, Nucl. Instr. Meth. **219**, 508 (1984).

16. "Symmetric Splitting of Very Light Systems," K. Grotowski, Z. Majka, R. Planeta, M. Szczodrak, Y. Chan, G. Guarino, L.G. Moretto, D.J. Morrissey, L.G. Sobotka, R.G. Stokstad, I. Tserruya, S. Wald, and G.J. Wozniak, Phys. Rev. C **30**, 1214 (1984).

17. "Compound Nucleus Decay Along the Mass Asymmetry Coordinate and the Role of Businaro-Gallone Point," L.G. Sobotka, M.A. McMahan, R.J. McDonald, C. Signarbieux, G.J. Wozniak, M.L. Padgett, J.H. Gu, Z.H. Liv, Z.Q. Yao, and L.G. Moretto, Phys. Rev. Lett. **53**, 2004 (1984).

18. "Partitioning of Nuclei," L.G. Sobotka and L.G. Moretto, Phys. Rev. C **31**, 668 (1985).

19. "Mass-Asymmetric Barriers from Excitation Functions for Complex Fragment Emission," M.A. McMahan, L.G. Moretto, M.L. Padgett, G.J. Wozniak, L.G. Sobotka, and M.G. Mustafa, Phys. Rev. Lett. **54**, 1995 (1985).

20. "Sequential Fission Angular Distributions From Mass-Asymmetric Heavy-Ion Reactions," D.J. Morrissey, G.J. Wozniak, L.G. Sobotka, R.J. McDonald, A.J. Pacheco, and L.G. Moretto, Nucl. Phys. A **442**, 578 (1985).

21. "K-Shell Ionization in 7.5- and 8.6 MeV/a.m.u. U + U Collisions at Very Small Impact Parameters," D. Molitoris, C. Stoller, R. Anholt, W.E. Meyerhof, D.W. Spooner, R.J. McDonald, L.G. Sobotka, G.J. Wozniak, L.G. Moretto, M.A. McMahan, E. Morenzoni, M. Nessi and W. Wölfli, Z. Phys. D **2**, 91 (1986).

22. "Excitation Energy Division in the First 160 MeV of Total Kinetic Energy Loss for the Reaction: 684 MeV ^{80}Kr + ^{174}Yb," L.G. Sobotka, G.J. Wozniak, R.J. McDonald, M.A. McMahan, R.J. Charity, L.G. Moretto, Z.H. Liu, F.S. Stephens, R.M. Diamond, M.A. Deleplanque and A.J. Pacheco, Phys. Lett. B **175**, 27 (1986).

23. "Particle-Bound Excited State Yields Produced in the Reaction: 181 MeV ^{19}F + ^{159}Tb," L.G. Sobotka, D.G. Sarantites, H. Puchta, F.A. Dilmanian, M. Jääskeläinen, M.L. Halbert, J.H. Barker, J.R. Beene, R.L. Ferguson, D.C. Hensley and G.R. Young, Phys. Rev. C **34**, 917 (1986).

24. "Nuclear Temperature Measurements and Feeding From Particle Unbound States," H.M. Xu, D.J. Fields, W.G. Lynch, M.B. Tsang, C.K. Gelbke, M.R. Maier, D.J. Morrissey, J. Pochodzalla, D.G. Sarantites, L.G. Sobotka, M.L. Halbert, D.C. Hensley, D. Hahn, H. St cker, Phys. Lett. B **182**, 155 (1986).

25. "Nuclear Shapes from Alpha-Gamma Ray Angular Correlations," Z. Majka, D.G. Sarantites, L.G. Sobotka, K. Honkanen, E.L. Dines, L.A. Adler, Li Ze, M.L. Halbert, J.R. Beene, D.C. Hensley, R.P. Schmitt, and G. Nebbia, Phys. Rev. Lett. **58**, 322 (1987).

26. "Spin Coating Thin Films of Plastic Scintillator," E. Norbeck, T.P. Dubbs, and L.G. Sobotka, Nucl. Instr. Meth., A **262**, 546 (1987).

27. "The Angular Momentum Dependence of Complex Fragment Emission," L.G. Sobotka, D.G. Sarantites, Z. Li, E.L. Dines, M.L. Halbert, D.C. Hensley, J.C. Lisle, R.P. Schmitt, Z. Majka, G. Nebbia, H.C. Griffin, and A.J. Sierk, Phys. Rev. C **36**, 2713 (1987).

28. "A Dwarf Ball: Design, Instrumentation, and Response Characteristics of 4π Light Charged-Particle Multidetector System," D.G. Sarantites, L.G. Sobotka, T.M. Semkow, V. Abenante, J. Elson, J.T. Hood, Z. Li, N.G. Nicolis, D.W. Stracener, J. Valdes, and D.C. Hensley, Nucl. Instr. Meth. A **264**, 319 (1988).

29. "Non-Resonant Microwave Absorption at Low Field in $YBa_2Cu_3O_{7-x}$," T.-S. Lin, L.G. Sobotka, and W. Froncisz, Nature **333**, 21 (1988).

30. "Systematics of Complex Fragment Emission in Niobium Induced Reactions," R.J. Charity, M.A. McMahan, G.J. Wozniak, R.J. McDonald, L.G. Moretto, D.G. Sarantites, L.G. Sobotka, G. Guarino, A. Pantaleo, L. Fiore, A. Gobbi, and K.D. Hildenbrand, Nucl. Phys. A **483**, 371 (1988).

31. "Reaction Filters: Charged Particle Multiplicity and Linear Momentum Transfer to Heavy Reaction Residues," M.B. Tsang, Y.D. Kim, N. Carlin, Z. Chen, R. Fox, C.K. Gelbke, W. Gong, W.G. Lynch, T. Murakami, T. Noyak, R. Ronningen, H. Xu, F. Zhu, L.G. Sobotka, D. Stracener, V. Abenente, Z. Majka, D.G. Sarantites, and H.C. Griffin. Phys. Lett. B **220**, 492 (1989).

32. "Multifragmentation Emission observed for the Reaction $^{36}Ar + ^{238}U$ at E/A = 35 MeV," Y.D. Kim, M.B. Tsang, N. Carlin, Z. Chen, R. Fox, C.K. Gelbke, W. Gong, W.G. Lynch, T. Murakami, T. Noyak, R. Ronningen, H. Xu, F. Zhu, L.G. Sobotka, D. Stracener, V. Abenente, Z. Majka, D.G. Sarantites, and H.C. Griffin, Phys. Rev. Lett. **63**, 494 (1989).

33. "Target Excitation and Angular Momentum Transfer in Reactions of E/A = 11.9 MeV ^{28}Si with ^{181}Ta from 4π Charged Particle, Neutron and γ-ray Multiplicity Measurements," Z. Majka, V. Abenante, Z. Li, N.G. Nicolis, D.G. Sarantites, T.M. Semkow, L.G. Sobotka, D.W. Stracener, J.R. Beene, D.C. Hensley, and H.C. Griffin, Phys. Rev. C **40**, 2124 (1989).

34. "Complex Fragments Emitted in Particle Stable States for the $^{32}S + ^{nat}Ag$ Reaction at E/A = 22.3 MeV," H.M. Xu, W.G. Lynch, C.K. Gelbke, M.B. Tsang, D.J. Fields, M.R. Maier, D.J. Morrissey, J. Pochodzalla, T.K. Nayak, D.G. Sarantites, L.G. Sobotka, M.L. Halbert and D.C. Hensley, Phys. Rev. C **40**, 186 (1989).

1990 - 1999

35. "Fracture without Fusion," L.G. Sobotka and P. Winter, Nature, **343**, 601 (1990).

36. "Deformation Effects in the Compound Nucleus Decay Using the Spin-Alignment Method," N.G. Nicolis, D.G. Sarantites, L.A. Adler, F.A. Dilmanian, K.J. Honkanen, Z. Majka, L.G.

Sobotka, Z. Li, T.M. Semkow, J.R. Beene, M.L. Halbert, D.C. Hensley, J.G. Natowitz, R.P. Schmitt, D. Fabris, G. Nebbia and G. Mouchaty, Phys. Rev. C **41**, 2118 (1990).

37. "Azimuthal Distribustions of Fission Fragments and α Particles Emitted in the Reactions ^{36}Ar + ^{238}U at E/A = 20 and 35 MeV and ^{14}N + ^{238}U at E/A = 50 MeV," M.B. Tsang, Y.D. Kim, N. Carlin, Z. Chen, C.K. Gelbke, W.G. Gong, W.G. Lynch, T. Murakami, T. Nayak, R.M. Ronningen, H.M. Xu, F. Zhu, L.G. Sobotka, D.W. Stracener, D.G. Sarantites, Z. Majka, and V. Abenante, Phys. Rev. C **42**, R15 (1990).

38. "Dwarf Ball and Dwarf Wall: Design, Instrumentation, and Response Characteristics of a 4π CsI(Tl) - Plastic Phoswich Multidetector System for Light Charged Particle and Intermediate Mass Fragment Spectrometer," D.W. Stracener, D.G. Sarantites, L.G. Sobotka, J. Elson, J.T. Hood, Z. Majka, V. Abenante, A. Chbihi, and D.C. Hensley, Nucl. Instru. Meth. A **294**, 485 (1990).

39. "Yield Decomposition and Excitation Energy Reconstruction in an Incomplete Fusion Reaction," A. Chbihi, L.G. Sobotka, Z. Majka, D.G. Sarantites, D.W. Stracener, V. Abenante, T.M. Semkow, N.G. Nicolis, D.C. Hensley, J.R. Beene, and M.L. Halbert, Phys. Rev. C **43**, 652 (1991).

40. "Determination of the Nuclear Level Density at High Excitation Energy," A. Chibihi, L.G. Sobotka, N.G. Nicolis, D.G. Sarantites, D.W. Stracener, Z. Majka, D.C. Hensley, J.R. Beene, and M.L. Halbert, Phys. Rev. C **43**, 666 (1991).

41. "A Study of the Particle Multiplicity Dependence of High Energy Photon Production in a Heavy-Ion Reaction," L.G. Sobotka, L. Gallamore, A. Chbihi, D.G. Sarantites, D.W. Stracener, W. Bauer, D.R. Bowman, N. Carlin, R.T. De Sousa, C.K. Gelbke, W.G. Gong, S. Hannuschke, Y.D. Kim, W.G. Lynch, R. Ronningen, M.B. Tsang, F. Zhu, J.R. Beene, M.L. Halbert, and M. Thoennessen, Phys. Rev. C **44**, R2257 (1991) and erratum August (1992).

42. "Statistical Emission of Deuterons and Tritons from Highly Compound Nuclei," N.G. Nicolis, D. G. Sarantites, L.G. Sobotka, and R. J. Charity, Phys. Rev. C **45**, 2393 (1992).

43. "Binary Character of Highly Dissipative ^{209}Bi + ^{136}Xe Collisions at E_{lab}/A = 28.2 MeV," B. Lott, S.P. Baldwin, B.M. Szabo, B.M. Quednau, W. U. Schröder, and J. Tõke, L.G. Sobotka, J. Barreto, R. J. Charity, L. Gallamore, D.G. Sarantites, D.W. Stracener, and R. T. deSouza, Phys. Rev. Lett. **68**, 3141 (1992).

44. "The Mechanism for the Disassembly of Excited ^{16}O Projectiles into Four Alpha Particles," R. J. Charity, J. Barreto, L.G. Sobotka, D.G. Sarantites, D.W. Stracener, A. Chbihi, N.G. Nicolis, R. Auble, C. Baktash, J.R. Beene, F. Bertrand, M. Halbert, D.C. Hensley, D. Horen, C. Ludermann, M. Thoennessen, and R. Varner, Phys. Rev. C **46**, 1951 (1992).

45. "Molecular-Orbital Study of Late-Fission Time Scales in Deep Inelastic ^{238}U + ^{238}U Collisions," J.D. Molitoris, W.E. Meyerhof, Ch. Stoller, R. Anholt, D.W. Spooner, L.G. Moretto, L.G. Sobotka, R.J. McDonald, G.J. Wozniak, M. A. McMahan, L. Blumenfeld, N. Nessi, and E. Morenzoni, Phys. Rev. Lett. **70**, 537 (1993).

46. "The Tube: a simple 4π detector for enhancing channels in γ-ray spectroscopy experiments," P.-F. Hua, D.G. Sarantites, L. G. Sobotka, J.L. Barreto, and A Kirov, Nucl. Instru. Meth. A **330**, 121 (1993).

47. "The Onset of Nuclear Vaporization," M.B. Tsang, W.C. Hsi, W.G. Lynch, D.R. Bowman, C.K. Gelbke, M.A. Lisa, G.F. Peaslee, G.J. Kunde, M.L. Begemann-Blaich, T. Hofmann, J. Hubele, J. Kempter, P. Kreutz, W.D.Kunze, V. Lindenstruth, U. Lynen, M. Mang, W.F.J. Müller, M. Neumann, B. Ocker, C.A. Ogilvie, J. Pochodzalla, F. Rosenberger, H. Sann, A. Schüttauf, V. Serfling, W. Trautmann, A. Tucholski, A. Wörner, B. Zwieglinski, G. Raciti, G. Imme, R.J. Charity, L.G. Sobotka, I. Iori, A. Moroni, R. Scardoni, A. Ferrero, W. Seidel, L. Stuttge, A. Cosmo, W.A. Friedman, and G. Peilert, Phys. Rev. Lett. **71**, 1502 (1993).

48. "Search for entrance channel effects in the decay of the ^{164}Yb compound nucleus at E□ ≈ 54 MeV," J. Barreto, N.G. Nicolis, D.G. Sarantites, R.J. Charity, L.G. Sobotka, D.W. Stracener, D.C. Hensley, J.R. Beene, C. Baktash, M. Halbert, D. Horen, and, M. Thoennessen, Phys. Rev. C **48**, 2881 (1993).

49. "Estimation of the time scale of last chance alpha emission using an "atomic clock," L. Gallamore, D.G. Sarantites, R.J. Charity, N.G. Nicolis, L.G. Sobotka, J.R. Beene, M. Halbert, and R. L. Varner, Phys. Rev. C **49**, R584 (1994).

50. "Time scale for proton emission from highly excited projectiles," R.J. Charity, L.G. Sobotka, G. Van Buren, F.A. Tibbals, J. Barreto, D.R.Bowman, M.Chartier, J. Dinius, D. Fox, C.K. Gelbke, D.O. Handzy, W.C. Hsi, P.F. Hua, A.S. Kirov, M.S. Lisa, W.G. Lynch, G.P. Peaslee, L. Phair, D.G. Sarantites, C. Schwarz, R.T. de Souza, M.B. Tsang, and C. Williams, Phys. Lett. **323**, 113 (1994).

51. "Energy dependence of multifragmentation in ^{84}Kr + ^{197}Au," G.F. Peaslee, M.B. Tsang, C. Schwarz, M.J. Huang, W.S. Huang, W.C. Hsi, C. Williams, W. Bauer, D.R. Bowman, M. Chartier, J. Dinius, C.K. Gelbke, T. Glasmacher, D.O. Handzy, M.A. Lisa, W.G. Lynch, C. Mader, L. Phair, M.-C. Lemaire, S.R. Souza, G. Van Buren, R.J. Charity, L.G. Sobotka, G.J. Kunde, U. Lynen, J. Pochodzalla, H. Sann, W. Trautmann, D. Fox, R.T. deSouza, G. Peilert, W.A. Friedman, N. Carlin, Phys. Rev. C **49**, R2271 (1994).

52. "Simulations of collisions between nuclei at intermediate energy using the BUU equation with neutron skin producing potentials," L.G. Sobotka, Phys. Rev. C **50**, R1272 (1994).

53. "Collective expansion in central Au+Au collisions," W.C. Hsi, et al. (the ALADIN-MINIWALL-MINIBALL collaboration), Phys. Rev. Lett. **73**, 3367 (1994).

54. "Fragment flow and the multifragmentation phase space," G.J. Kunde, et al. (the ALADIN-MINIWALL-MINIBALL collaboration), Phys. Lett. **74**, 38 (1995).

55. "Decay of ^{160}Er□ produced in ^{16}O + ^{144}Nd and ^{64}Ni + ^{96}Zr fusion reactions," J. Barreto, N.G. Nicolis, D.G. Sarantites, R.J. Charity, L.G. Sobotka, D.W. Stracener, D.C. Hensley, J.R. Beene, C. Baktash, M. Halbert, D. Horen, and, M. Thoennessen, Phys. Rev. C **51**, 2584 (1995).

56. "Two-proton emission from the ground state of ^{12}O," R.A. Kryger, A. Azhari, M. Hellström, J.H. Kelly, T. Kubo, R. Pfaff, E. Ramakrishnan, B.M. Sherrill, M. Thoennessen, S. Yokoyama, R.J. Charity, J. Dempsey, A. Kirov, N. Robertson, D.G. Sarantites, L.G. Sobotka, and J.A. Winger, Phys. Rev. Lett. **74**, 860 (1995).

57. "Dissipative Orbiting in ^{209}Bi + ^{136}Xe Collisions at E_{lab}/A = 28.2 MeV," S.P. Baldwin, B. Lott, B.M. Szabo, B.M. Quednau, W. U. Schröder, and J. Tõke, L.G. Sobotka, J. Barreto, R. J.

Charity, L. Gallamore, D.G. Sarantites, D.W. Stracener, and R. T. deSouza, Phys. Rev. Lett. **74**, 1299 (1995).

58. "Assessing the Evolutionary Nature of Multifragment Decay," E. Cornell, T.M. Hamilton, D. Fox, Y. Lou, R.T. de Souza, M.J. Huang, W.C. Hsi, C. Schwarz, C. Williams, D.R. Bowman, J. Dinius, C.K. Gelbke, D.O. Handzy, M. Liza, W.G. Lynch, G.F. Peaslee, L. Phair, M.B. Tsang, G. Van Buren, R.J. Charity, L.G. Sobotka, and W.A. Friedman, Phys. Rev. Lett. **75**, 1475 (1995).

59. "The dynamics of heavy-ion fusion probed by d/p double ratios from a cross bombardment," M. Korolija, R.J. Charity, N.G. Nicolis, D.G. Sarantites, and L.G. Sobotka, Phys. Rev. C **52**, 3074 (1995).

60. "Prompt and sequential decay processes in the fragmentation of 40 MeV/A ^{20}Ne projectiles," R.J. Charity, L.G. Sobotka, J. Dinius, C.K. Gelbke, T. Glasmacher, D.O. Handzy, W.C. Hsi, M.J. Huang, W.G. Lynch, C.P. Montoya, G.P. Peaslee, N.J. Robertson, D.G. Sarantites, C. Schwarz, and M.B. Tsang, Phys. Rev. C **52**, 3126 (1995).

61. "Intermediate Mass Fragment - decay of the neck zone formed in peripheral ^{209}Bi and ^{136}Xe collisions at E_{lab}/A = 28.2 MeV," J. Tõke, B. Lott, S.P. Baldwin, B.M. Quednau, W. U. Schröder, L.G. Sobotka, J. Barreto, R. J. Charity, D.G. Sarantites, D.W. Stracener, and R. T. deSouza, Phys. Rev. Lett. **75**, 2920 (1995).

62. "Origin of slow, heavy residues observed in dissipative ^{197}Au + ^{86}Kr collisions at E/A = 35 MeV," W. Skulski, B. Djerroud, D.K. Agnihotri, S.P. Baldwin, J. Tõke, X. Zhao, W. U. Schröder, L.G. Sobotka, R. J. Charity, J. Dempsey, D.G. Sarantites, B. Lott, W. Loveland, and K. Aleklett, Phys. Rev. C **53**, R2594 (1996).

63. "Squeeze-out of nuclear matter in Au + Au collisions," M.B Tsang, P. Danielewicz, W.C. Hsi, M. Huang, W.G. Lynch, D. R. Bowman, C.K. Gelbke, M.A. Lisa, G.F. Peaslee, R. J. Charity, L.G. Sobotka, and the ALADIN collaboration, Phys. Rev. C **53**, 1959 (1996).

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Phys. Rev. Lett. submitted (2026). arXiv:2512.15598v1 [nucl-ex]

241. "*Differential cross sections for $^{12}C(n,\alpha_0)$, $^{16}0(n,\alpha_0)$ and $^{16}0(n,\alpha_{1,2,3})$ between E_n = 7.2 and 10 MeV with an active-target Time Projection Chamber*,"
J Bishop, CE Parker, R Smith, Tz Kokalova, GV Rogachev, C Wheldon, S Ahn, E Koshchiy, K Brandenburg, CR Brune, RJ Charity, J Derkin, N Dronchi, G Hamad, Y Jones-Alberty, TN Massey, Z Meisel, EV Ohstrom, SN Paneru, EC Pollacco, M Saxena, N Singh, LG Sobotka, D Soltesz, SK Subedi, AV Voinov, J Warren,
Submitted for publication

242. "*Ultrasensitive Radionuclide Detection for Alpha Particle Radiotherapy*,"
J. S. Phillips, A. Hasson, A. Thomas, N. Benabdallah, S. Ai, J. K. Mikell, M. A. Thomas, H. Gay, D. Ulmert, L. G. Sobotka, D. L. J. Thorek,
Submitted for publication

243. "*First identification of ^{17}Na ground-state and mirror symmetry violation,"*
L. Ni, Z. C. Xu, Y. Jin, Z. H. Li, K. W. Brown*, H. Hua, S. M. Wang, C. Y. Niu, A. Anthony, J. Barney,* R.J. Charity, D. Dell'Aquila, J. M. Elson, J. Estee, G. Jhang, J. G. Li, W. G. Lynch, N. Michel, L. G. Sobotka, S. Sweany, F. C. E. Teh, A. Thomas, C. Y. Tsang, M. B. Tsang, H. Y. Wu, C. X. Yuan, and K. Zhu,
Phys. Rev. submitted

Previous Grant Support

- Institutional funds, $96,500 from **Washington University**. New faculty research initiation grant, starting September 1984.

- "Studies of Complex Fragment Emission and Angular Momentum Transfer in Nuclear Reactions," **Department of Energy**, Division of Nuclear Physics: $60,000; period of award, June 1, 1985 through January 1, 1987.

- Presidential Young Investigator Award, **National Science Foundation**. Period of award, 1986-1991. The award is $25,000 each year plus matching funds not to exceed a total of $100,000 each year.

- "Studies of Complex Fragment Emission in Heavy-Ion Reactions," **Department of Energy**, Division of Nuclear Physics, budgets of: $65,000 for 1987; $75,000 for 1988; and $95,000 for 1989.

- "Studies of Complex Fragment Emission in Heavy-Ion Reactions," **Department of Energy**, Division of Nuclear Physics, budgets of: $103,000 for 1990; $108,000 for 1991; and $121,000 for 1992 (joint with R. J. Charity).

- "Studies of Complex Nuclear Decays in Heavy-Ion Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with budgets of: $135,000 for 1993; $143,000 for 1994, and $163,000 for 1995.

- "Studies of Complex Fragment Emission in Heavy-Ion Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R.J. Charity with budgets of: $170,000 for 1996, $171,000 (base) + $22,000 (supplemental) funds for 1997, and $172,000 for 1998.

- "Studies of Complex Nuclear Decays in Heavy-Ion Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with budgets of: $177,000 for 1999,

$182,000 for 2000, and $180,000 (+23,000 supplemental for CMOS chip development project) for 2001.

- "Large solid angle Si Array," **National Science Foundation, the MRI program**. Spokesman: W. Lynch (Mich. State Univ.) with additional PI's at Indiana University and Washington University (L.G. Sobotka). NSF budget $348,000/$100,000 - (Total/WU) plus 30% pro-rated matching funds also supplied by 3 institutions.

- Brachytherapy Dosimetry Using Plastic Scintillators, **National Institutes of Health and National Cancer Institute.** Spokesman : J. Williamson (WU -MIR) with additional PI's in WU-Chemistry (L.G. Sobotka and R. J. Charity) and Physics (W. Binns and P. Gibbons). Grant covered the years 2000 -2002 with a total budget of $856,000.

- "Studies of Complex Nuclear Decays in Heavy-Ion Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with budgets of: $180,000 for 2002, $208,000 for 2003, and 212,000 (base) + $29,000 (supplemental for EE student.)

- "Studies of Complex Nuclear Decays in Heavy-Ion Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with budgets of: $225,000 for 2005, $230,000 for 2006, and $233,000 for 2007.

- "CMOS chip development," **National Science Foundation, the MRI program**. PI: G. Engel (Southern Illinois University at Edwardsville), L.G.S. as Co-PI. The two-year budget (2007-2008) was $192,000.

- "Carbon processing in intact Soybean leaves," **I-CARES** (WU), LGS PI with J. Schaefer (Chem.), Y.C. Tai (Rad.), and R. Mach (Rad.). One-year (seed) budget of $33,000 (2009).

- "Studies of Nuclear Structure and Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with budgets of: $253,000 for 2008, $263,000 for 2009, and $272,000 for 2010.

- "PSD capable CMOS chip development and implementation," **DTRA (Defense Threat Reduction Agency) subcontract from LANL**. LGS PI with Co-PI's G. Engel (SIUE) and R. J. Charity. Three-year budget (2008-2010) of $260,000; $35,000 (2011); $25,000 (2012).

- **"**MRI:Development of High-Resolution Positron Imaging System Dedicated to Plant Research", **NSF-MRI**, PI Y. C. $7,300 (Sobotka portion) for the period 9/10-9/13.

- "Development of a Simultaneous Beta-and gamma Imager for Plant-imaging research", **Department of Energy**, Division of Medical sciences, PI Y. C. Tai, $35,600 (Sobotka portion) for the period 9/10-9/13.

- "Studies of Nuclear Structure and Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with budgets of: $292,000 for 2011, $295,000 for 2012, and $292,000 for 2013.

- "Breakup of loosely bound nuclei at intermediate energies for nuclear astrophysics and the development of a position sensitive micro-strip detector system and its readout electronics using ASICs technologies." **Department of Energy**, Division of Nuclear Physics, PI: R. Tribble [TAMU], WU component (Sobotka and Charity) $306,000 for the period 2010-2015.

- "Studies of Nuclear Structure and Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with 3-year budget (2014-2016) of: $1,000,000.

- "Studies of Nuclear Structure and Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with 3-year budget (2017-2019) of: $1,100,000. Supplements: $15,000 (2018), $35,000 (2019).

- "Studies of Nuclear Structure and Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with 3-year budget (2020-2022) of: $1,365,000 + $176,000 (5-month extension). The costed extension was to rotate grant cycle to fit DOE comparative review program.

- "CENTAUR – Center for Excellence in Nuclear Training And University-based Research," **Department of Energy**, National Nuclear Security Administration - Steward Science Academic Alliances, (NNSA-SSAA). TAMU is this hub institution of this 5-year (2019-2023) $10M grant. In addition to TAMU, the academic institutions are: FSU, LSU, ND, UW, and WU. The WU portion is $465,000.

Active grant support

- "Studies of Nuclear Structure and Reactions," **Department of Energy**, Division of Nuclear Physics. Joint with R. J. Charity with 3-year budget (June 1, 2023 - 2026) of: $1,501,000.

- "CENTAUR – Center for Excellence in Nuclear Training And University-based Research," **Department of Energy**, National Nuclear Security Administration - Steward Science Academic Alliances, (NNSA-SSAA). TAMU is this hub institution of this 5-year (Aug. 1 2023 - 2028) $12.5M grant. In addition to TAMU, the academic institutions are: FSU, LSU, ND, UM-Lowell, UW, and WU. The WU portion is $678,000.

Invited Talks, Seminars, and Interviews
(General/public audience lectures in **bold**)

1983 Lawrence Livermore National Laboratory, NP and NC Divisions
Los Alamos National Laboratory, NP and INC Divisions
Washington University, Department of Chemistry
1984 Chalk River Nuclear Laboratories
Gordon Conference, Nuclear Chemistry
1985 Michigan State University, Cyclotron Laboratory
University of Michigan, Department of Physics
1986 University of Michigan, Department of Chemistry
1987 Indiana University, Department of Chemistry
Washington University, Department of Chemistry
1988 Carnegie-Mellon University, Mellon Institute
Texas A and M University, Cyclotron Institute
Grand Accelerateur National D'ions Lourds Laboratoire
Gordon Conference, Nuclear Chemistry

Chalk River Nuclear Laboratories
1989 Indiana University, Bloomington, Department of Chemistry
Washington University, Public Lecture:
Why cold fusion claims are wrong.
1990 State University of New York, SUNY, Department of Physics
University of Illinois, Urbana, Department of Physics
Washington University, Department of Physics
1991 Grand Accelerateur National D'ions Lourds Laboratoire
1993 Michigan State University, Cyclotron Laboratory
1995 Chalk River Nuclear Laboratories
Gull Lake Conference
Texas A & M University, Cyclotron Institute
1997 Michigan State University, Cyclotron Laboratory
University of Illinois, Carbondale, Department of Physics
Indiana University, Bloomington, Cyclotron Laboratory
1999 International Workshop on Gross Properties of Nuclei, Hirschegg Austria
2000 M. Smoluchowski Institute of Physics, Krakow, Poland
Argonne National Laboratory, Physics Division
Texas A & M University, Department of Chemistry
2001 Michigan State University, Cyclotron Laboratory
2002 Nuclear Chemistry Gordon Conference
2003 American Physical Society (plenary talk)
2004 American Physical Society (plenary talk)
WCI-I - Catania, Italy
2005 WCI-III - TAMU
Michigan State University, Cyclotron Laboratory
Indiana University, Cyclotron Laboratory
Institute of Nuclear Theory (INT) – Seattle
2006 Indiana University, Department of Chemistry
2007 Cocoyco – Mexico
Notre-Dame, two seminars: a. Physics and b. Joint Chemistry + Physics
Texas A & M Cyclotron Institute
Duke University, Department of Physics and TUNL
2008 Michigan State University, Cyclotron Laboratory
Texas A & M, Department of Chemistry
Washington University, Computer Science & Engineering (CSE)
2009 University of Rochester, Department of Physics
2010 Carpathian Summer School of Physics, Sinaia Romania
Washington University, Physics
Texas A & M Cyclotron Institute
2011 Texas A & M Cyclotron Institute
Washington University, Public Lecture:
The physical science of the Fukushima disaster
Nuclear Chemistry Gordon Conference
Indiana University, Cyclotron Laboratory
American Physical Society (plenary talk)
ANSIP-2011 (Acireale, Italy).
2012 International Nucleus-Nucleus Conference (San Antonio, TX)
RIKEN – Japan
2013 International Workshop on Nuclear Dynamics and Thermodynamics, TAMU
2014 ICI-8, International Conference on Isotopes (Chicago, IL.)
Ohio University (Athens)

2015 Washington University: Public lecture (Saturday Science Series):

The Chart of the Nuclides

Texas A & M, Department of Chemistry (Student selected speaker.)

Pacifichem 2015 Congress (Hawaii)

2016 Washington University, Public Lecture:

The Nuclear Future: Challenges and Opportunities in the 21st century

Saint Louis Science Teachers –

Nuclear Chemistry: What should be taught in HS?

2018 Washington University, Sigma Iota Rho lecture series*:*

The North Korean Nuclear Program

O'Fallen Ill, High School Science Club, *Nuclear Science*

Texas A & M – *(a) Future neutron detectors for invariant mass spectroscopy*

(b) The experimental science for CENTUAR – NNSA center

Galveston TX (SONTANCP4), International conference on clustering in nuclear systems

Washington University*, Fun and Games with God's quantum dots.*

Washington University*, (EPS evening seminar series, one of two speakers):*

Science, Humanities and the West Lake Landfill

2019 NSCL/FRIB/Michigan State University

Texas A & M – *The experimental science for CENTAUR – NNSA center*

Washington University

Chernobyl – the cost of lies (technical discussion and HBO series review)

Univ. of Alabama- Birmingham (two talks: **Chernobyl** and "God's Quantum Dots")

Nuclear Science for High Schools (an outreach program for StL HS teachers)

APS/DNP (D.C.)

Duke/TUNL (Durham NC)

Texas A&M Cyclotron Institute (College Station TX)

2020 An interview with a science writer lead to this Scientific American article by Ling Xin: https://www.scientificamerican.com/article/carbon-conundrum-experiment-aims-to-re-create-synthesis-of-key-element/

2022 Washington University, Department of Chemistry

Argonne National Laboratory, Physics Division

Washington University, PPC (International Conference on the Interconnections between Particle Physics and Cosmology)

Univ. of Washington - Seattle, (Meeting summary talk on a topical meeting on how angular momentum in generated in Fission)

LBNL Nuclear Physics Forum, Nuclear Science Division

Orlando, CIPANP (Conference on the Intersections of Particle and Nuclear Physics)

Washington University, Public Lecture:

The person Wake of A. H. Compton

2023 Saint Louis University forum on the potential contamination in the Jana School in Hazelwood.

The radioactive legacy of the Manhattan Project in Saint-Louis – Jana Elementary?

https://www.slu.edu/public-health-social-justice/centers-institutes/ceet.php

https://www.youtube.com/watch?v=ZbDhPB2pqRo

⇨ > 18k views (as of 1/24)

Second talk on the same subject to WashU Environmental Studies faculty.

OLLI (Osher Lifelong Learning Institute) StL continuing education series.

The person Wake of A. H. Compton

Gordon Conference, Nuclear Chemistry – Angular momentum generation in Fission

Exotic Beam Summer School (EBSS2023) – Nuclear Reactions

Organized and participated in "Sat-Sci" panel discussion of

Oppenheimer – The movie and WashU connections.

"Sat-Sci", lecture 2 of a 4 part series on Oppenheimer and his science

Oppie: the Los Alamos years, nuclear science and a weapons primer

2024 AIHA (American Industrial Hygiene Association) – Radiological issues in Saint Louis
LLNL – CENTAUR fission projects
Whistler Canada (NN2024) – Selected results from Invariant-mass spectroscopy.
Washington University, Public Lecture

The making of the chemical elements

2025 Organizer, session chair, and (self) invited talks on near-threshold resonances and Joseph Cerny at the ACS meeting, San Diego.
Ohio University, Athens OH
AFIT (Air Force Institute of Technology) Division of Engineering Physics, Dayton OH
Univ. Of Tennessee, Knoxville

University Activities

Courses Taught:

1) General Chemistry Lecture 111:	1992, 1993, 1994.
2) General Chemistry Lecture 112:	1997, 1998. 1999.
3) General Chemistry Laboratory 115:	1987, 1988, 1989.
4) Undergraduate Physical Sciences Seminar Series 181:	1996 – 1999, 2010
5) Physical Science in 12 problems, Chem/Phys 400:	2005 – 2009, 2011 – 2024
6) Physical Chemistry I (Thermodynamics) 421:	2000 (old PChem order)
7) Physical Chemistry II (Thermo., S.M.) 402:	2002 – 2004, 2008 – 2013, 2019 – 2022
8) Radio-chemistry Laboratory, Chem/Phys 435:	1985, 1990 – 1994.
9) Introduction to the Atomic Nucleus, Chem/Phys 436:	1986 – 1988, 1995, 2006, 2014 – 2018, 2020 – 2025
10) Statistical Thermodynamics C562 and/or P529:	1989, 1990, 2001 – 2004.
11) Nuclear Physics 542 (only 1/3 taught by LGS):	1992, 1995.

11) Advanced Physics Laboratory 322 (3 project experiments developed by LGS)

12) Nuclear Power: Facts and Perception, EnSt 315 2017 – 2025
(Course master Susanne Loui, three technical lectures by lgs)

13) Nuclear Power: a technical overview, EnSt 400 2023, 2024, 2025
(A 1-cr special topics class, taught by lgs, designed to complement EnSt 315.)

Departmental Services:

Admissions Committee:	1984 – 1988
Recruitment Committee:	1984 – 1987
Seminar Committee:	1984 – 1987, 1988-1995
Search Committee (Chemistry):	1985, 1988, 2004, 2024
Search Committee (Physics):	1990, 1996, 2001, 2018, 2022
Search Committee (Lab Supervisor):	1986, 2023
Undergraduate Work Committee:	1989 – 1994, 2000 - 2022
New Building Committee, chair:	1994 – 2002
Shops Committee	1993 – 2022 (Chair until 2015)
Infrastructure and Operations (IO)	2023 –
Department Planning Group:	1994 – 1999
Samuel I. Weissman Lecture Committee	2015 –

University Services:

Radiological Safety Committee:	1984 – present (Hilltop representative)
Freshman advisor:	1985 – 1986, 1993 – 1994
University Wide Shop Committee:	1995

Moog Scholar Selection Committee: 2001 – 2003
University Curriculum Committee: 2001 – 2003, 2018
Compton-Ferguson Selection Committee: 2010 – 2017

Graduate Students:
Previous

L. Gallamore, M.S. [Chem.] 1992
First position: Director of the detector laboratory at International Technologies,
Current position: Practicing (patent) Lawyer

James F. Dempsey, Ph.D. [Chem.] 1997
Thesis: Dynamical aspects of fragment production in heavy-ion collisions.
Most recent academic position: Associate Professor, Departments of Nuclear Engineering and Radiology, University of Florida.
Present position: Founder and Chief Scientific Officer of **ViewRay**

M. Ganesan, M.S. [E.E] 2000 - secondary advisor
Current position: INTEL

M. Malikansari, M.S. [E.E.] 2001 - secondary advisor
Current position: INTEL

M. Nethi, M.S. [E.E.] 2003 - secondary advisor
Current position: INTEL

N. Gunawardena M.S. [Chem.] 2003
Current position – Pacific Northwest National Laboratory PNNL
International Nuclear Security

M. Sadasivam, M.S. [E.E.] 2004 - secondary advisor
Current position: INTEL

Sergey Komarov, Ph.D. [Phys.] 2006
Thesis: Collective Enhancement of the Nuclear Level Density
Current position: Research Professor - Washington University (Med. & Eng.)

Rebecca Shane, Ph.D. [Phys.] 2011
Thesis: Asymmetry Dependence of Correlations in Exotic Nuclei
Current position: Staff scientist – Facility for Rare Isotope Beams (FRIB)

Mike Hall, MS [E.E.] 2010 - secondary advisor.
Thesis: Development of a Pulse-Shape discriminating (PSD) capable ASIC
First position: Velocidata, St. Louis.
Current position: Teaching Professor, Washington University - St. Louis (Eng)

Tara Mastren, Ph.D. [Chem. and Radiology] 2014
Advised jointly with Prof. S. Lapi – WU radiology
Thesis: Isotope Harvesting at NSCL and FRIB
Current position: Associate Professor, University of Utah (Engineering)

Kyle Brown, Ph.D [WU-Chem.] 2016
Thesis: Continuum Structure of Light Nuclei
Kyle won the 2016 APS (NP) dissertation award.
First Position: Gregors Hansen Post-doc at the NSCL/MSU.
Current Position: Associate Professor MSU (FRIB & Chemistry).

Dan Hoff, Ph.D [WU-Chem.] 2018
Advised jointly with Prof. R. J. Charity
Thesis: Spin alignments of ^{7}Li/^{7}Be projectiles.
First position: Post-doctoral associate, Univ. of Mass. at Lowell
Current position: Staff LLNL

Cole Pruitt, Ph.D. [WU-Chem.] 2019
Thesis: Isotopically-resolved neutron cross sections used to Probe Nuclear Optical Potentials.

First position: Post-doc at LLNL
Current position: Staff LLNL

Tyler Webb, Ph.D. [WU-Phys.] 2019
Advised jointly with Prof. R. J. Charity, J. O'Sullivan (WU-eng.)
Thesis: (a) Discovery of ^{11}O and new insights into ^{12}O.
(b) Proton range verification for p therapy.
Current position: Data Analyst/Computer Scientist with Bayer/Monsanto

Shawn Loveless, Ph.D. [WU-Chem.] 2020
Advised jointly with Prof. Susanne Lapi – WU/UAB radiology
Thesis: Production of Medical Radioisotopes Using Titanium Targets
Current Position: Covidian/Medtronics, Isotopes division – St. Louis

Nima Tatari, Ph.D. [WU-Phys.] 2021
Advised jointly with Prof.Arash Darafsheh – WU Radiation Oncology
Thesis: A systematic study of neutron production in two versions of the Mevion proton-therapy system

Bryan Orabutt M.S. [WU-Eng.] 2022
Advised Jointed with Prof. Roger Chamberlain (Sys. Sci. – Eng.)
M.S. Thesis: Mixed mode PSD circuits.
Current position: Boeing

Dan Mulrow, Ph.D. [WU-Chem.] 2022
Jointly advised with Prof. Arash Darafsheh, WU – Radiation Oncology
Thesis: Proton-Induced Radio luminescence of Materials and Initial Studies of FLASH radiotherapy
First position: NNSA – Washington DC
Current position: staff at NAS (Long-term study of the radiation effects of Hiroshima and Nagasaki bombs.)

Nicolas Dronchi, Ph.D. [WU-Phys.] 2024
Thesis: (a) The proton decay of the first excited state of ^{36}Ca.
(b) Continuum spectroscopy of ^{7}Li.
(c) Discovery, and masses, of ^{34}K,^{37,38}Sc.
Current Position: Post-doc at FRIB

Current

Johnathan Phillips [WU-Chem.]
Thesis: (a) How magic is ^{22}Si?
(b) Continuum structure of ^{21}Al.
(c) High-resolution and pulse-shape-discriminating liquid-scintillation counting of natural and unnatural chains.
(d) Search for the 4^+ state in ^{16}Ne, a state without s components.

Prince John [WU-Eng.]
Advised Jointed with Prof. Roger Chamberlain (Computer Sci. & Eng.)
MS Thesis: Design of an Extensible and Scalable Data Acquisition System for Pulse Shape Discrimination
PhD Thesis: PSD circuits using "home grown" CMOS ASICs for CFD's, analog delays, and gated integrators.

Henry Webb [WU-Phys.]
Thesis: (a) A cross-fiber Scintillating Fiber Array (SFA) with SiPm readout.
(b) The np decay of The $J^{\pi}= 2^+$, T = 1 state in ^{6}Li.
(c) High-statistics study of ^{9}N

Yash Rahurkar [WU-Eng.]
Advised Jointed with Prof. Roger Chamberlain (Computer Sci. & Eng.)
Thesis: An ASIC for high fidelity analog delay

Undergraduates engaged in research in our group:

About 20 undergraduates have been mentored between 1985 and 2025.
Four went on to medical school or MD/PhD programs, the remainder went on to graduate school in physical science. The graduate schools include: Berkeley (chem.), MIT (both phys. and nuclear science/engineering), Harvard (phys.), Stanford (both chem. and phys.), Northwestern (chem. and mat. sci.), Duke (phys.), U. of Colorado at Boulder (mat. sci.), Michigan State University (several both chem. and phys.), and Texas A&M University (chem.).

Year in review (required by department) - 2025

10 papers (including 1 PT, 2 PRLs and 1 PL); 4 talks; Medal/Coin from US Air Force for education; two current grants, one new submission; served on university-wide Rad. Safety Committee; collaborations (and on thesis committees) with groups in Chem, Phys, CSE (Eng), Radiation Oncology, and Radiology; 0/1/0 PhD/MS/BS graduates; and currently 4 GSs (Chem, Phys, and two shared with Eng-CSE) and 1 UG's in the group. (The sr. membership of the group consists of: lgs, rjc – a full research professor, one engineer, and one laboratory manager. RJC has papers that lgs is not on and not in the above tally.) Faculty mentee awarded tenure (phys) and lgs remains on the faculty mentoring committee for one (chem).