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Romualdo T. de Souza

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Biographical data
Date of Birth: September 6, 1963
Immigrated to US in 1972
Citizenship: US

Education

Ph.D, University of Rochester, Nuclear Chemistry, May 1988
M.S., University of Rochester, Physical Chemistry, May 1985
A.B. Washington University, Chemistry, May 1983

Experience

Provost Professor, Indiana University, Bloomington, Feb. 2010 -

Professor of Chemistry, Indiana University, Bloomington, July 2002 -
Nuclear dynamics of heavy-ion reactions; nuclear equation-of-state; multifragmentation of excited nuclear matter; fragment emission timescale; two-particle interferometry; ternary fission.

Associate Professor of Chemistry, Indiana University, Bloomington, Aug. 1997 – June 2002.

Assistant Professor of Chemistry, Indiana University, Bloomington, Aug. 1991 - July 1997.

Research Associate, Michigan State University, NSCL, Feb. 1988 - July 1991.
Multifragmentation of excited nuclear matter; fragment emission timescale; two-particle correlation measurements; design and construction of a 4B detector system for multi-fragmentation studies at intermediate energies.

Postdoctoral Fellow, University of Rochester, Nuclear Chemistry Group, Jan. 1988 – Feb. 1988

Graduate Research Assistant, University of Rochester, 1983-1987; Research Advisor: J.R. Huizenga. Mass, charge, and energy transport in damped heavy-ion collisions. Onset of pre-equilibrium emission at intermediate energies.

Research Interests

My primary interest is in fusion of neutron-rich nuclei at energies near and below the fusion barrier. This topic is relevant to nuclear reactions occurring in the crust of accreting neutron stars and is a possible explanation of X-ray superbursts. I am also interested in the properties of nuclear matter under extreme conditions of excitation, density, shape, and N/Z. To probe the behavior of matter under these conditions a wide variety of methods have been used from mass asymmetric, high energy light heavy-ion reactions to Fermi energy collisions of more mass symmetric heavy-ions to ternary fission. The focus of our attention is the multifragment decay of excited, deformed, and rarefied nuclear matter. Other interests include: excitation energy sharing in damped heavy-ion reactions; the study of extremely proton-rich and neutron-rich nuclei near the limits of stability; development of advanced instrumentation for detection of electron, ions, and photons.

Honors

IU Provost Professor, 2010-present
IU Trustees' Teaching Award, 2008-2009
2008 Glenn T. Seaborg Award for Nuclear Chemistry, American Chemical Society
SBC Fellow, 2003
Ameritech Fellow, 2002
Indiana University President's Award, 1998
Gill Fellow, Indiana University, 1997 - 2001
Teaching Excellence Recognition Award, Indiana University, 1997,1998
A.P. Sloan Fellow, 1994 - 1997
Indiana University-Bloomington Summer Faculty Fellowship, 1992
National Superconducting Cyclotron Laboratory Fellow, Michigan State University, 1988 - 1991.
Arnold Weissberger Graduate Fellowship, University of Rochester, 1986 - 1987.
Elon Huntington Hooker Graduate Fellowship, University of Rochester, 1986 - 1987.
Sherman Clarke Graduate Fellowship, University of Rochester, 1984 - 1987.
University Fellow, University of Rochester, 1983 - 1985.

Professional Societies

Member of American Physical Society, Division of Nuclear Physics, 1986 - present
Member of American Chemical Society, Division of Nuclear Chemistry and Technology, 1987 - present
Member of American Association for the Advancement of Science, 1988 - present.
Member of Sigma Xi, National Honor Society, 1987 - present.

Current Funding

Project Title	Role	Agency	Duration	Funding
Many Body Nuclear Dynamics	PI	DOE	1/2016 – 12/2018	$1,100,000
Development of a high-resolution position sensitive MCP-PMT detector	PI	NNSA	9/2016-8/2018	$450,000

Book Chapters

1. *Detection* , R.T. de Souza, N. Le Neindre, A. Pagano, and K.-H. Schmidt, in Dynamics and Thermodynamics with Nuclear Degrees of Freedom, edited by Ph. Chomaz, F. Gulminelli, W. Trautmann and S.J. Yennello (Societa Italiana di fisica/Springer-Verlag (2006), pp. 275-291.

Invited Articles

1. Changing the Education System with CALM: Computer Assisted Learning Method. Romualdo T. de Souza, Cheryl L. McLean, Paulette Berger, *Phi Delta Kappan*, March 2008

Publications in Refereed Journals

131. Experimental measurement of $^{12}C + ^{16}O$ fusion at stellar energies, X. Fang, W.P. Tan, M. Beard, G. Gilardy, H. Jung, Q. Liu, S. Lyons, D. Robertson, K Setoodehnia, C. Seymour, E. Stech, B. Vande Kolk, M. Wiescher, R.T. deSouza, S. Hudan, V. Singh, X.D. Tang, E. Uberseder, Submitted in Phys. Rev. C. (Aug. 2016).

130. Fusion Enhancement at near and sub-barrier energies in $^{19}O + ^{12}C$, Varinderjit Singh, J. Vadas, T.K. Steinbach, B.B. Wiggins, S. Hudan, R.T. deSouza, Zidu Lin, C.J. Horowitz, L.T. Baby, S.A. Kuvin, Vandana Tripathi, I. Wiedenhover, A.S. Umar, Phys. Lett. B 765, 99 (2017).

129. High-rate axial-field ionization chamber for particle identification of radioactive beams, J. Vadas, Varinderjit Singh, G. Visser, A. Alexander, S. Hudan, J. Huston, B. B. Wiggins, A. Chbihi, M. Famiano, M.M. Bischak, R. T. deSouza, Nucl. Instr. Meth. In Phys. Res. A837, 28 (2016).

128. Sensing an electron cloud emanating from a microchannel plate stack, R. T. deSouza, B. B. Wiggins, D. Siwal, Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), IEEE Xplore (2016).

127. Evidence for survival of the α cluster structure in light nuclei through the fusion process, J. Vadas, T. K. Steinbach, J. Schmidt, Varinderjit Singh, C. Haycraft, S. Hudan, R. T. deSouza, L. T. Baby, S. A. Kuvin, I. Wiedenhover, Phys. Rev. C 92, 064610 (2015).

126. Using pulse shape analysis to improve the position resolution of a resistive anode microchannel plate detector, D. Siwal, B. B. Wiggins, R.T. deSouza, Nucl. Instr. Meth. In Phys. Res. A804, 144 (2015).

125. Optimizing the position resolution of a Z-stack microchannel plate resistive anode detector for low intensity signals, B.B. Wiggins, E. Richardson, D. Siwal, S. Hudan, R.T. deSouza, Rev. Sci. Instrum. 86, 083303 (2015).

124. Symmetry Energy dependence of long timescale isospin transport, K. Stiefel, Z. Kohley, R.T. deSouza, S. Hudan, K. Hammerton, Phys. Rev. C 90, 061605(R) (2014).

123. Sub-barrier enhancement of fusion as compared to a microscopic method in $^{18}O + ^{12}C$, T.K. Steinbach, J. Vadas, J. Schmidt, C. Haycraft, S. Hudan, R.T. deSouza, L.T. Baby, S.A. Kuvin, I. Wiedenhover, A.S. Umar, V.E. Oberacker, Phys. Rev. C90, 041603(R) (2014).

122. Measuring the fusion cross-section of light nuclei with low-intensity beams, T. K. Steinbach, M. J. Rudolph, Z. Q. Gosser, K. Brown, B. Floyd, S. Hudan, R. T. deSouza, J. F. Liang, D. Shapira and M. Famiano, Nucl. Instr. Meth. In Phys. Res. A743, 5 (2014).

121. Timescale for Isospin Equilibration in Projectile Breakup, S. Hudan and R.T. deSouza, Special Review Edition of Eur. J. Phys. A on Symmetry Energy, Eur. Phys. J. A50 36 (2014).

120. Teaching thermodynamics and kinetics to general chemistry students using PV diagrams, S.S. Iyengar and R.T. deSouza, Journal of Chem. Ed. 2013 (2013) http://dx.doi.org/10.1021.ed400480t

119. Confronting near and sub-barrier fusion cross-sections for $^{20}O + ^{12}C$ with a microscopic method, R.T. de Souza, S. Hudan, V.E. Oberacker, S. Umar, Phys. Rev. C **88**, 014602 (2013).

118. Timescale for equilibration of N/Z gradients in dinuclear systems, K. Brown, S. Hudan, R.T. deSouza, J. Gauthier, R. Roy, D.V. Shetty, G.A. Souliotis, and S.J. Yennello, Phys. Rev. C **87** 061601(R) (2013).

117. Using quantum mechanics to facilitate the introduction of a broad range of chemical concepts to first year undergraduate students, R. T. deSouza and S.S. Iyengar, Journal of Chem. Ed. 90, 717 (2013).

116. Isospin observables from fragment energy spectra, T.X. Liu, W.G. Lynch, R.H. Showalter, M.B. Tsang, X.D. Liu, W.P. Tan, M.J. van Goethem, G. Verde, A. Wagner, H.F. Xi, H.S. Xu, M.A. Famiano, R.T. de Souza, V.E. Viola, R.J. Charity and L.G. Sobotka, Phys. Rev. C **86**, 024605 (2012).

115. Tracking saddle-to-scission dynamics using N/Z in projectile breakup reactions, S. Hudan, A. B. McIntosh, R. T. de Souza, S. Bianchin, J. Black, A. Chbihi, M. Famiano, M. O. Frégeau, J. Gauthier, D. Mercier, J. Moisan, C. J. Metelko, R. Roy, C. Schwarz, W. Trautmann, and R. Yanez, Phys. Rev. C **86**, 021603(R) (2012).

114. Using induced signals to sense position from a microchannel plate detector, R. T. de Souza, Z. Q. Gosser, and S. Hudan, Rev. Sci. Instrum. 83, 053305 (2012).

113. Near- and sub-barrier fusion of ^{20}O incident ions with ^{12}C target nuclei, M.J. Rudolph, Z.Q. Gosser, K. Brown, S. Hudan, R.T. de Souza, A. Chbihi, B. Jacquot, M. Famiano, J.F. Liang, D. Shapira, D. Mercier, Phys. Rev. C **85**, 024605 (2012).

112. Angular dependence in proton-proton correlation functions in central $^{40}Ca + ^{40}Ca$ and $^{48}Ca + ^{48}Ca$ reactions, V. Henzl, M. A. Kilburn, Z. Chajęcki, D. Henzlova, W. G. Lynch, D. Brown, A. Chbihi, D. D. S. Coupland, P. Danielewicz, R. T. deSouza, M. Famiano, C. Herlitzius, S. Hudan, Jenny Lee, S. Lukyanov, A. M. Rogers, A. Sanetullaev, L. G. Sobotka, Z. Y. Sun, M. B. Tsang, A. Vander Molen, G. Verde, M. S. Wallace, and M. Youngs, Phys. Rev. C **85**, 014606 (2012).

111. Ground-State Proton Decay of ^{69}Br and Implications for the ^{68}Se Astrophysical Rapid Proton-Capture Process Waiting Point, A. M. Rogers, M. A. Famiano, W. G. Lynch, M. S. Wallace, F. Amorini, D. Bazin, R. J. Charity, F. Delaunay, R. T. de Souza, J. Elson, A. Gade, D. Galaviz, M.-J. van Goethem, S. Hudan, J. Lee, S. Lobastov, S. Lukyanov, M. Matoš, M. Mocko, H. Schatz, D. Shapira, L. G. Sobotka, M.B.Tsang, and G.Verde, Phys. Rev. Lett. **106**, 252503 (2011).

110. Sub-nanosecond time-of-flight for segmented silicon detectors, R.T. deSouza, A. Alexander, K. Brown, B. Floyd, Z.Q. Gosser, S. Hudan, J. Poehlman, M.J. Rudolph, Nucl. Instr. Meth. In Phys. Res. A 632, 133 (2011).

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107. Correlations between Reaction Product Yields as a Tool for Probing Heavy Ion Reaction Scenarios, W. Gawlikowicz, D.K. Agnihotri, S.A. Baldwin, W.U. Schroder, J. Toke, R.J. Charity, D.G. Sarantites, L.G. Sobotka, R.T. deSouza, T. Barczyk, K. Grotowski, S. Micek, R. Planeta, and Z Sosin, Phys. Rev. C **81**, 014604 (2010).

106. Mechanisms in Knockout reactions, D. Bazin, R. J. Charity, R. T. de Souza, M. A. Famiano, A. Gade, V. Henzl, D. Henzlova, S. Hudan, J. Lee, S. Lukyanov, W. G. Lynch, S. McDaniel, M. Mocko, A. Obertelli, A. M. Rogers, L. G. Sobotka, J. R. Terry, J. A. Tostevin, M. B. Tsang, and M. S. Wallace, Phys. Rev. Lett. **102**, 232501 (2009).

105. Exclusive Studies of 130-270 MeV ^{3}He- and 200-MeV Proton-Induced reactions on ^{27}Al, ^{nat}Ag and ^{197}Au, D.S. Ginger, K. Kwiatkowski, G. Wang, W-C. His, S. Hudan, E. Cornell, R.T. de Souza, V.E. Viola and R.G. Korteling, Phys. Rev. C **78**, 034601 (2008).

104. The high resolution array (HiRA) for rare isotope beam experiments, M.S. Wallace, M.A. Famiano, M.-J. van Goethem, A. Rogers, W.G. Lynch, J. Clifford, F. Delaunay, J. Lee, S. Labostov, M. Mocko, L. Morris, A. Moroni, B.E. Nett, D.J. Oostdyk, R. Krishnasamy, M.B. Tsang, R.T. de Souza, S. Hudan, L.G. Sobotka, R.J. Charity, J. Elson, G.L. Engel, Nucl. Instr. Meth. In Phys. Res. A583, **302** (2007).

103. Tidal effects and the Proximity decay of nuclei, A.B. McIntosh, S. Hudan, C.J. Metelko. R.T. de Souza, R.J. Charity, L.G. Sobotka, W. Lynch and M.B. Tsang, Phys. Rev. Lett. **99**, 132701 (2007).

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101. Neutron to proton ratios of quasiprojectile and midrapidity emission in the ^{64}Zn + ^{64}Zn reaction at 45 MeV/nucleon, D. Thériault, J. Gauthier, F. Grenier, F. Moisan, C. St-Pierre, R. Roy, B. Davin, S. Hudan, T. Paduszynski, R.T. de Souza, E. Bell, J. Garey, J. Iglio, A.L. Keksis, S. Parketon, C. Richers, D.V. Shetty, S.N. Soisson, G.A. Souliotis, B.C. Stein, and S.J. Yennello, Phys. Rev. C 74, 051602(R) (2006).

100. Highly segmented detector arrays for studying resonant decay of unstable nuclei, R.T. de Souza, Nucl. Inst. Meth. In Phys. Res. B261, 1107 (2007).

99. d-α correlation functions and collective motion in Xe+Au collisions at E/A=50 MeV, G. Verde, P. Danielewicz, W.G. Lynch, C.F. Chan, C.K. Gelbke, L.K. Kwong, T.X. Liu, X.D. Liu, D. Seymour, R. Shomin, W.P. Tan, M.B. Tsang, A. Wagner, H.S. Xu, D.A. Brown, B. Davin, Y. Larochelle, R.T. de Souza, R.J. Charity and L.G. Sobotka, Phys. Lett. B653, 12 (2007).

98. Isospin diffusion observables in heavy ion reactions, T.X. Liu, W.G. Lynch, M.B. Tsang, X.D. Liu, R. Shomin, W.P. Tan, G. Verde, A. Wagner, H.F. Xi, H.S. Xu, B. Davin, Y. Larochelle, R.T. de Souza, R.J. Charity, L.G. Sobotka, Phys. Rev. C **76**, 034603 (2007).

97. Light-ion-induced multifragmentation: the ISiS Project, V.E. Viola, K. Kwiatkowski, L. Beaulieu, D.S. Bracken, H. Breuer, J. Brzychczyk, R.T. de Souza, D.S. Ginger, W.-C. Hsi, R.G. Korteling, T. Lefort, W.G. Lynch, K.B. Morley, R. Legrain, L. Pienkowski, E.C. Pollacco, E. Renshaw, A. Ruangma, M.B. Tsang, C. Volant, G. Wang, S.J. Yennello, Phys. Rept., Los Alamos National Laboratory, Preprint Archive, Nuclear Experiment (2006), 1-67, arXiv:nucl-ex/0604012, Phys. Rept. 434 (2006), 1-67.

96. Cooling dynamics in multi-fragmentation processes, T.X. Liu, W.G. Lunch, M.J. van Goethem, X.D. Liu, R. Shomin, W.P. Tan, M.B. Tsang, G. Verde, A. Wagner, H.F. Xi, H.S. Xu, W.A. Friedman, S.R. Souza, R. Dontangelo, L. Beaulieu, B. Davin, Y, Larochelle, T. Lefort, R.T. de Souza, R.Yanez, V.E. Viola, R.J. Charity, L.G. Sobotka, Europhys. Lett. **74** 806-812 (2006).

95. Short timescale behavior of colliding nuclei at intermediate energies, S. Hudan, R.T. de Souza, A. Ono Phys. Rev. C73, 054602 (2006).

94. Resolving multiple particles in a highly segmented silicon array, T. Paduszynski, P. Sprunger, R.T. deSouza, S. Hudan, A. Alexander, B. Davin, G. Fleener, A. Mcintosh, C. Metelko, R. Moore, N. Peters, J. Poehlman, J. Gauthier, F. Grenier, R. Roy,D. Theriault, E. Bell, J. Garey, J. Iglio, A.L. Keksis, S. Parketon, C. Richers, D.V. Shetty, S.N. Soisson, G.A. Soulioutis, B. Stein, S.J. Yennello, Nucl. Instr. Meth. **A 547**, 464-479 (2005).

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6. Non-Equilibrium Effects in the ^{139}La + ^{40}Ar Reaction at 10 MeV per Nucleon Observed in a study of Neutron Emission. J. L. Wile, S. S. Datta, W. U. Schroder, J. R. Huizenga, J. Toke, R. T. de Souza, Phys. Rev. C**39**, 1845 (1989).

5. Nucleon Exchange in the Absence of Strong Driving Forces: The Reaction ^{238}U + ^{48}Ca at E_{lab} = 425 MeV. R. T. de Souza, W. U. Schroder, J. R. Huizenga, J. Toke, S. S. Datta, and J. L. Wile, Phys. Rev. C**39**, 114 (1989).

4. N/Z Equilibration in Damped Collisions induced by E/A = 8.5 MeV ^{58}Ni and ^{64}Ni on ^{238}U. R. Planeta, S. H. Zhou, K. Kwiatkowski, W. G. Wilson, V. E. Viola, H. Breuer, D. Benton, F. Khazaie, R. J. McDonald, A. C. Mignerey, A. Weston-Dawkes, R. T. de Souza, J. R. Huizenga, W. U. Schroder, Phys. Rev. C**38**, 195 (1988).

3. Effect of a Steep Gradient in the Potential Energy Surface on Nucleon Exchange. R. T. de Souza, J. R. Huizenga, W. U. Schroder, Phys. Rev. C**37**, 1901 (1988).

2. Evolution of Mass and Charge Asymmetry in Damped Heavy-Ion Reactions. R. T. de Souza, W. U. Schroder, J. R. Huizenga, R. Planeta, K. Kwiatowski, V. E. Viola, H. Breuer, Phys. Rev. C**37**, 1783 (1988).

1. Relaxation of the Mass Asymmetry Degree of Freedom in Heavy-Ion Reactions. M. A. Butler, S. S. Datta, R. T. de Souza, J. R. Huizenga, W. U. Schroder, J. Toke, and J. L. Wile, Phys. Rev. C**34**, 2018 (1986).

Invited Talks and Seminars

140. "Understanding neutron-rich environments by examining low energy fusion of neutron-rich light nuclei", Romualdo deSouza, Nuclear Seminar, January 27, 2017, Washington University, St. Louis, MO

139. "Getting under the skin of neutron-rich light nuclei with low energy fusion reactions", Romualdo deSouza, Nuclear Science Seminar, October 19, 2016, Michigan State Univ., East Lansing, MI

138. "Modeling microchannel plate detectors for improved performance", Romualdo deSouza, 252 American Chemical Society National Meeting, August 26, 2016, Philadelphia, PA

137. "Exploring Fusion of Neutron-Rich Light Nuclei Using Radioactive Beams", Romualdo deSouza , Nuclear Chemistry Summer School, July 15, 2016, Brookhaven National Lab, Brookhaven, NY

136. "Development of a high resolution position sensitive MCP-PMT detector", Romualdo deSouza, 2016 Stockpile Stewardship Academic Programs Symposium, Feb. 16, 2016, Washington D.C.

135. "Forging Elements in a Flash", Romualdo de Souza, Nuclear Physics Seminar, February 4, 2016, University of Kentucky, Lexington, KY

134. "Grappling ~~with~~ in nuclear fusion to overcome barriers", Romualdo de Souza, Scientific Symposium Honoring Former Director Konrad Gelbke, October 8, 2015, Michigan State University, East Lansing, MI

133. "Overcoming Barriers to Forge Elements in the Dark", Romualdo de Souza , Nuclear Chemistry Summer School, July 17, 2015, Brookhaven National Lab, Brookhaven, NY `

132. "Taking pictures at near the one electron limit", Romualdo de Souza, Physics Seminar, June 26, 2015, Florida State University, Department of Physics, Tallahassee, FL

131. "Development of a High Resolution Position Sensitive MCP-PMT detector", 2015 Stockpile Stewardship Academic Programs Symposium, Washington D.C. Mar. 12, 2015

130. "Overcoming Barriers to Forge Elements in the Dark", Department of Physics, Texas A&M University-Commerce, Commerce, TX Feb. 5 2015.

129. “Forging Elements in the Dark”, Department of Chemistry, Northern Kentucky University, Jan. 21 2015.

128. “Fusion of neutron-rich light nuclei: and intersection of nuclear astrophysics and nuclear science”, Cyclotron Institute Seminar, Texas A&M University, Dec. 2 2014

127. “Development of a High Resolution Position Sensitive MCP-PMT detector”, 2014 Stockpile Stewardship Academic Programs Symposium, Washington D.C. Feb. 19-20, 2014

126. “Sub-barrier Fusion with N/Z Exotic Beams of Light Nuclei”, Joint DNP Town Meetings on Nuclear Structure and Nuclear Astrophysics, College Station TX, Aug. 21-23 2014

125. “Determining the total fusion cross-section for $^{19,20}O + {}^{12}C$ near and below the Coulomb barrier”, Fall 2013 Indianapolis ACS National Meeting, Indianapolis, IN, Sept. 8, 2013

124. “Fusing Exotic Nuclei at and below the Coulomb barrier”, International Workshop on Nuclear Dynamics and Thermodynamics, College Station, TX, Aug. 20, 2013

123. “N/Z Equilibration in Binary Nuclear Systems”, 3rd International Symposium on Nuclear Symmetry Energy, NSCL/FRIB, East Lansing, MI July 22-26, 2013

122. “Examining the fusion of light nuclei with neutron-rich radioactive beams”, Florida State University, Tallahassee, FL, Feb. 15, 2013

121. “Measuring fusion cross-sections with low intensity beams: From WMU to radioactive beam facilities”, Western Michigan University, Kalamazoo, MI, Feb. 5 2013

120. “Fusion excitation measurement for $^{20}O + {}^{12}C$ at E/A = 1-2 MeV”, *Nucleus-Nucleus*, San Antonio, TX, May-June, 2012

119. "Overcoming barriers in Nuclear science", Dept. of Physics and Chemistry, Wabash College, Nov. 9, 2011

118. “100m down and light-years away: Nuclear science in an extreme laboratory”, *Joint Chemistry/CASPER Seminar*, Baylor University, Waco, TX, Oct. 2011.

117. “Dissecting binary and ternary breakup of an excited projectile-like fragment in peripheral Xe + Sn collisions”, at *Francis P. Garvan-John M. Olin Medal: Symposium in Honor of Sherry Yennello* symposium, National Meeting of the American Chemical Society, Anaheim, CA, Mar. 28, 2011

116. “Teaching advanced quantum concepts to first-year university students in chemistry", at *Francis P. Garvan-John M. Olin Medal: Symposium in Honor of Sherry Yennello* symposium, National Meeting of the American Chemical Society, Anaheim, CA, Mar. 28, 2011

115. “Using nuclear reactions with Rare Isotope Beams to understand neutron stars and fusion dynamics”, National Superconducting Cyclotron Lab, Michigan State University, E. Lansing, MI, Feb. 16, 2011

114. “Synthesizing nuclei on Earth and in the Heavens: Understanding how the elements came about", Department of Chemistry, Indiana University, Feb. 15, 2011

113. “Exploring a neutron star’s crust with nuclear reactions”, Department of Chemistry, Texas A & M University, College Station, TX, Feb. 8, 2011

112. “Using nuclear reactions with Radioactive Ion Beams to understand supernovae explosions, neutron stars, and X-ray superbursters”, Department of Chemistry, Hope College, Holland, MI, Jan. 28, 2011

111. “Using Radioactive Ion Beams to understand nuclear reactions in the crust of a neutron star”, Nuclear Science Laboratory, Department of Physics, Notre Dame University, Jan. 24th, 2011.

110. “Radiation Detectors for Nuclear Science in the Era of Radioactive Beams”, Plenary Lecture, Advances in Nuclear Radiation Detectors and Technologies for Rare Isotope Science, Rutgers University, New Brunswick, NJ, Jan. 8-9, 2011

109. “FIRST and SiEFUS”, Advances in Nuclear Radiation Detectors and Technologies for Rare Isotope Science, Rutgers University, New Brunswick, NJ, Jan. 8-9, 2011

108. “Is there a need for medium density electronics?”, Advances in Nuclear Radiation Detectors and Technologies for Rare Isotope Science, Rutgers University, New Brunswick, NJ, Jan. 8-9, 2011

107. “Sub-barrier fusion cross-sections for neutron-rich oxygen and carbon nuclei”, Michigan State University, Presentation at the National Superconducting Cyclotron Lab Users’ Workshop, E. Lansing, MI, Aug. 18, 2010.

106. “Sub-barrier fusion cross-sections for neutron-rich oxygen and carbon nuclei”, Grand Accelerateur National d'Ions Lourds, Caen, France, July 20, 2010

105. Dynamical and statistical aspects of intermediate energy heavy-ion collisions, Glenn T. Seaborg Award for Nuclear Chemistry: Symposium in Honor of Lee G. Sobotka, 239th American Chemical Society Meeting, San Francisco, CA, Mar. 21, 2010.

104. Sub-barrier fusion cross-sections for neutron-rich oxygen and carbon nuclei, Michigan State University, National Superconducting Cyclotron Lab, E. Lansing, MI, Feb. 20-22, 2010.

103. Learning about Nuclei, Supernovae, and Neutron Stars through Nuclear Collisions, Indiana State University, Terra Haute, IN, October 20, 2009.

102. Teaching Science at the Introductory Level with CALM (Computer Assisted Learning Method), R.T. de Souza, American Association of Physics Teachers / Illinois Association of Chemistry Teachers (AAPT/IACT), E. Peoria, IL, October 16-17, 2009.

101. Velocity Damping and Fragmentation in Non-Central Intermediate Energy Heavy-Ion Collisions, R.T. de Souza, International Conference on Nuclear Fragmentation, Kemer, Turkey, September 26 – October 4, 2009.

100. Sub-barrier fusion cross-sections for neutron-rich oxygen and carbon nuclei, R.T. de Souza, Rare Isotope Accelerator (RIA)/Facility for Rare Isotope Beams (FRIB) Workshop at Argonne National Laboratory, Argonne, IL, May 30-31, 2009

99. Studying Neutron Star Crusts and X-ray Superbursters down Here on Earth, R.T. de Souza, Invited Lecturer, Andrews University, Berrien Springs, MI, February 26-28, 2009.

98. Studying Supernovae, Nucleosynthesis, and Neutron Stars with Radioactive Ion Beams, R. T. de Souza, "What's going on upstairs?" Alpha Chi Sigma Lecture, Indiana University, Bloomington, IN, December 3, 2008.

97. The Looming Energy Crisis and Global warming: Is Nuclear Power the answer?, R. T. de Souza, University of Colorado, Colorado Springs, CO, October 30, 2008.

96. Colliding microscopic droplets (nuclei) what can we learn?, R.T. de Souza, Associated Colleges of the Chicago Area Seminar, Benedictine University, Lisle, IL, October 28, 2008.

95. New Aspects of Heavy Ion Collisions Near the Coulomb Barrier, R.T. de Souza, Session Chair at FUSION 2008, Chicago, IL, October 26-28, 2008.

94. Detection of neutrons and charged-particles emitted in peripheral and mid peripheral collisions of 124,136-Xe and 112,124-Sn nuclei at E/A = 50 MeV, A.B. McIntosh, J. Black, S. Hudan, C.J. Metelko, R. Yanex, R.T. de Souza, A. Chbihi, M.A. Famiano, M-O. Fregeau, J. Gauthier, J. Moisan, R. Roy, S. Bianchin, C. Schwarz and W. Trautmann, Symposium in Honor of the Scientific Career of John M. Alexander, 236th ACS National Meeting, Philadelphia, PA, August 17-21, 2008.

93. Cluster emission from excited nuclear systems, R.T. de Souza, 236th ACS National Meeting, Philadelphia, PA, August 17-21, 2008.

92. "Engaging students to learn chemistry with CALM", R. de Souza, 20th Biennial Conference on Chemical Education (BCCE), Indiana University, Bloomington, IN, July 27-31, 2008

91. "Teaching students how to solve complex chemistry problems with CALM", R. de Souza, 20th Biennial Conference on Chemical Education (BCCE), Indiana University, Bloomington, IN, July 27-31, 2008.

90. "Probing the birth of clusters in a warm and dilute nuclear medium with correlation functions"**, R.T. de Souza Award Address** (Glenn T. Seaborg Award for Nuclear Chemistry, sponsored by ACS Division of Nuclear Chemistry and Technology).

89. "Measuring extremely short-lived states with Resonance Spectroscopy: Tidal Effects and Proximity Decay", Dept. of Physics, IU South Bend, South Bend, Indiana, Dec. 6th, 2007

88. "The Looming Energy Crisis and Global Warming: Is Nuclear Energy the Answer?" R. T. de Souza, Wabash College, Crawfordsville, IN, November 12th, 2007

87. "Measuring extremely short-lived states with Resonance Spectroscopy: Tidal Effects and Proximity Decay", R. T. de Souza, Butler University, Indianapolis, IN, September 19th, 2007

86. "Resonance Spectroscopy of Short-lived clusters: Using Field Gradients", R. T. de Souza, GANIL, Caen, France, July 10th, 2007

85. "Proximity Decay of Unstable Nuclear Clusters", R. T. de Souza, Physics Division Seminar, Oak Ridge National Lab., Dec. 15th 2006

84. "Measuring extremely short-lived states with resonance spectroscopy, Tidal effects and Proximity Decay", R.T. de Souza, Physics and Engineering Seminar, Hope College, Hope, MI, Nov. 17th 2006.

83. "Resonance Spectroscopy and Proximity decay", R.T. de Souza, Physics Dept. Ohio State University, Columbus, OH, Nov. 3rd 2006.

82. **"**Highly Segmented Detector Arrays for Studying Resonant Decay of Unstable Nuclei", R.T. de Souza, *19th International Conference on the Application of Accelerators in Research and Industry (CAARI)*, Fort Worth, TX, August 21-25 2006.

81. "Proximity Decay and Tidal Effects", R.T. de Souza, *Gordon Conference on Nuclear Chemistry*, New London, NH, June 4-9 2006.

80. "From Landscapes to Tides", R.T. de Souza, *J.R. Huizenga Fest and Symposium*, Rochester, NY, April 22 2006.

79. "MASE: Multiplexed Analog Shaped Electronics", R.T. de Souza, *Research group seminar*, Lawrence Berkeley National Laboratory, Berkeley, CA, March 2006.

78. "Engendering change in the American Educational System with CALM", R.T. de Souza, *Careers in Academia Seminar*, University of Illinois, Urbana-Champaign, IL, February 7 2006.

77. "Using reaction dynamics to examine the statistical decay of nuclear matter"**,** R.T. de Souza, *229th ACS National Meeting*, San Diego, CA, March 13-16 2005.

76. "Short timescale behavior of colliding nuclei at intermediate energies", December 6, 2005, University of Laval, Quebec City, Canada

75. "Using reaction dynamics to examine the statistical decay of nuclear matter", Mar. 13th-16th 2005, 229th ACS National Meeting, San Diego, CA

74. "Nuclear Chemistry Status report: What's going on downstairs (and upstairs) with the nuclear chemistry group", IUCF Lunch Talk series,

73. Dissecting statistical and dynamical fragment emission in nucleus-nucleus heavy-ion collisions, Feb. 25th, 2005, Triangle Universities Nuclear Laboratory (TUNL), North Carolina

72. "WCI3: Detection", Feb. 11th-17th 2005, World Consensus Initiative III 2004, College Station, TX

71. "Fragment-fragment Correlations as a Probe of the System Space-time Extent and Decay History", January 2004, Dynamics and Thermodynamics with Nucleonic Degrees of Freedom, WCI 2004, Catania, Italy

70. "Coulomb Proximity Decay", January 2004, Dynamics and Thermodynamics with Nucleonic Degrees of Freedom, WCI 2004, Catania, Italy

69. "Using Calm (Computer Assisted Learning Method) to Help Students Learn", October, 2003, Indiana University, Physics Department Colloquium Series.

68. "What can we learn from the decay of excited projectile-like fragments resulting from peripheral heavy-ion collisions?" July 17-19, 2003, Texas A&M University, College Station, TX.

67. "Decay of highly excited projectile-like fragments produced in dissipative peripheral collisions at intermediate energies", Conference on Topics in Heavy Ion Collisions, June 25-28, 2003, Montreal, Canada.

66. "Excitation and spin of projectile-like fragments produced in peripheral and mid-peripheral collisions of intermediate energy heavy-ions", Mini-Symposium at the American Physical Society Meeting, April 5-8, 2003, Philadelphia, PA.

65. "Detector requirements for nuclear reaction studies", RIA Detector Workshop 2003, March 18-22, 2003, Oak Ridge, TN.

64. "HINP16/32C: An ASIC for nuclear science", RIA Detector Workshop 2003, March 18-22, 2003, Oak Ridge, TN.

63. "Formation and decay of highly excited nuclear matter in intermediate energy heavy-ion collisions", March 5, 2003, Physics Department, Purdue University, West Lafayette, IN.

62. "Formation and decay of highly excited nuclear matter in intermediate energy heavy-ion collisions", February 2003, Indiana University Cyclotron Facility, Indiana University, Bloomington, IN.

61. "Can computers help faculty teach and students learn?" February 2003, Department of Chemistry, Chemical Education Group, Purdue University, West Lafayette, IN.

60. "When nuclei fall apart: probing the nuclear equation-of-state", February 2003, Department of Chemistry, Rose-Hulman Institute of Technology, Terre Haute, IN.

59. Co-Convener, Reaction Physics. NSCL User Workshop, October 2002, East Lansing, MI, 2002 Fall Meeting of the Division of Nuclear Physics.

58. Symposium Organizer, *Nuclei and Nuclear Matter at the Limits of Stability.* August 2002, Boston, MA, 224th National Meeting, American Chemical Society.

57. Session Co-organizer, *Nuclear Reactions – Isospin and Structure in* Reaction, June 2002, Colby-Sawyer College, New London, NH, Nuclear Chemistry Gordon Conference

56. The HiRA Si(IP) Detectors, STRIP 2002 May/June 2002, The National Superconducting Cyclotron Laboratory at Michigan State University.

55. Moderator, Panel Discussion, *Critical Issues/Questions in Nuclear Dynamics. Multifragmentation.* April 2001, San Diego, CA, 221st National Meeting, American Chemical Society.

54. Dynamical decay of extended nuclear geometries and fissionlike behavior for light nuclei, R. de Souza, April 2001, San Diego, CA, 221st National Meeting, American Chemical Society.

53. "Nuclear Chemistry – Studying the Behavior of Microscopic Droplets", Indiana State University, Terre Haute, IN, February 20, 2001.

52. "Studying Arrested Mixing of a Two-component Quantum Liquid", Reaction Working Group, Nuclear Physics Town Hall Meeting, Oakland, California, November 11, 2000.

51. "Project Calm: Workshop", Pedagogy and Practice in Chemical Education, Two Year College Chemistry Consortium Conference, Vincennes University, Vincennes, Indiana, November 10, 2000.

50. "Project Calm: An Electronic Homework Program", Pedagogy and Practice in Chemical Education, Two Year College Chemistry Consortium Conference, Vincennes University, Vincennes, Indiana, November 10, 2000.

49. "Computer Aided Learning: A New Tool for Old Objectives or Is There Something Intrinsically New?", Medical Sciences Seminar, Indiana University, Bloomington, Indiana, November 6, 2000.

48. "Multi-particle Correlations in Low Density Nuclear Matter: Aggregation and Correlated Multi-nucleon Transfer?" RIA Workshop 2000, Research Triangle Park, Durham, North Carolina, July 24-27, 2000.

47. "Clustering at Mid-rapidity in Intermediate Energy Heavy-ion Reactions: Dissecting Peripheral and Mid-central Collisions", Seventh International Conference on Nucleus-Nucleus Collisions 2000, Strasbourg, France, July 3-7, 2000.

46. "Ternary Fission and Neck Fragmentation", Nuclear Chemistry Gordon Research Conference, Colby-Sawyer College, New Hampshire, June 18-23, 2000.

45. "Decay of Deformed Nuclear Matter: Ternary Fission and Neck Fragmentation at Intermediate Energies", Department of Physics, University of Florence, Florence, Italy, June 7, 2000.

44. "Clustering at Mid-rapidity in Intermediate Energy Heavy-ion Reactions: Signal of Neutron Enrichment?", Bologna 2000, Structure of the Nucleus at the Dawn of the Century, Bologna, Italy, May 29, June 3, 2000.

43. "Decay of Deformed Nuclear Matter: Ternary Fission and Neck Fragmentation at Intermediate Energies", INFN-Laboratoire Nazionale di Legnaro, Legnaro, Italy, May 25, 2000

42. "Isotopic and Isobaric Ratios of Fragments Emitted at Mid-Rapidity", SUBATECH, Ecole des Mines, Nantes, France, April 6, 2000.

41. “Cluster Emission at Mid-Rapidity: Neutron Enrichment Effects”, INFN, Catania, Sicily, March 31, 2000.

40. “Investigating Heavy-Ion Reactions with Fragment-Fragment Correlations”, GSI, Darmstadt, Germany, March 28, 2000.

39. "Isotopically Resolved Fragments at Mid-Rapidity: What Can We Learn?”, Seminar, IPN Orsay, France, March 14, 2000.

38. “Isotopically Resolved Fragments at Mid-Rapidity: What Can We Learn?”, INDRA Workshop 2000, Caen, France, March 9-11, 2000.

37. "Isotopically resolved fragments at Mid-Rapidity: What we can learn?" XXXVIII International Winter Meeting On Nuclear Physics, Bormio, Italy, January 23rd-30th, 2000.

36. "Probing the Thermal and Dynamical Properties of Fragmenting Systems with Fragment Emission", R.T. de Souza, INDRA Working Group, Orsay, France, January 11, 2000.

35. "Dynamical and Statistical Decay in Fissioning Systems", R.T. de Souza, Hahn-Meitner Institute, Berlin, Germany, December 10th, 1999.

34. "What we can learn from Heavy Fragments Emitted Near Scission", R.T. de Souza, Centre d'Etudes Nucleaire de Bordeaux-Gradignan, Bordeaux, France, December 3rd, 1999.

33. "Cluster Emission in Deformed Nuclear Matter: Statistical and Dynamical Signatures", R. T. de Souza, Dept. of Physics, Univ. of Surrey, Guilford, England, November 24th, 1999.

32. "Experimental Evidence for Dynamical Decay of Finite Nuclear Matter", R.T. de Souza, GANIL-LPC Seminaire, Caen, France, November 5th 1999.

31. “Highly Segmented, High Resolution Arrays for Nuclear Reactions and Spectroscopy at Radioactive Beam Facilities”, Town Meeting on Nuclear Astrophysics, University of Notre Dame, June 7-8, 1999.

30. “LASSA: Large Area Silicon Strip Array” Workshop on the Experimental Equipment for an Advanced ISOL facility, Berkeley, CA. July 22-25, 1998.

29. “Competition between Dynamics and Excitation in Ternany Fission of Heavy Nuclei”, Workshop on Non-Equilibrium Physics at Short Time Scales, Rostock, Germany, April 27-30, 1998.

28. “Ternary Fission in Alpha and Carbon Induced Reactions on Thorium Targets”, XXXVI International Meeting on Nuclear Physics, January 26-30, 1998, Bormio, Italy.

27. “Probing Nuclear Matter at Extreme Conditions V”, Session Chairman, American Chemical Society, 214th National Meeting, Las Vegas, NV 7-11 September 1997.

26. “Emission of intermediate mass fragments from highly deformed nuclear matter at low excitation”, American Chemical Society, 214th National Meeting, Las Vegas, NV 7-11 September 1997.

25. “Light and Heavy-Ion Induced Ternary Fission”, Conference on Dynamical Aspects of Nuclear Fission 1996, Casta-Papernicka, Slovak Republic, August 30-September 4, 1996.

24. “The Evolutionary Nature of Multifragment Decay: Statistical and Dynamical Pictures”, Workshop on Intermediate Energy Heavy-ion Reactions, NSCL, Michigan State University, July 12-13, 1996.

23. “The Evolutionary Nature of Multifragment Decay”, 1996 Nuclear Chemistry Gordon Conference, Colby-Sawyer College, New London, NH, June 16-21, 1996.

22. “Multifragment Decay: A Temporal Fingerprint”, R.T. de Souza and E. Cornell, Twelfth Winter Workshop on Nuclear Dynamics, Snowbird, Utah, January 1996.

21. “The Importance of Time in Multifragmenting”, Nuclear Systems., Indiana University Cyclotron Facility, September 29, 1995.

20. “Statistical Aspects of Highly Excited Nuclear Systems”, Symposium on Hot and Expanding Nuclear Matter, 210th National Meeting of the American Chemical Society, August 21-24, 1995.

19. “Investigating the Temporal Nature of Multifragmentation”, Department of Physics, Purdue University, June 28, 1995.

18. “Multifragment Decay: Piecing Together the Puzzle”, R.T. de Souza, Nuclear Structure Research Laboratory, University of Rochester, NY 14627. May 12, 1995.

17. “Destabilizing the Nuclear Drop”, R.T. de Souza, Department of Chemistry, SUNY, Stonybrook, NY, February 23, 1995

16. “Destabilizing the Nuclear Drop”, R.T. de Souza, Department of Chemistry, Indiana University, Bloomington, IN, February 16, 1995.

15. “Assessing the Temporal Nature of Multifragment Decay”, E. Cornell, Eleventh Winter Workshop on Nuclear Dynamics, Key West, FL, February 11-18, 1995.

14. “Statistical Features of Highly Excited Nuclear Systems”, Department of Chemistry, Washington University, St. Louis, September 15, 1994.

13. "Experimental Signatures of Multifragmentation and the Fragment Emission Timescale”, 2nd International Symposium on Nuclear Physics at Storage Rings, St. Petersburg, Russia, May 15-21, 1994.

12. “Characterizing Fragment Emission in Intermediate Energy Heavy-Ion Reactions”, Tenth Winter Workshop on Nuclear Dynamics, Snowbird, Utah, January 16-22, 1994.

11. “Expansion in Multifragmentation”, Reaction Mechanisms Workshop, National Superconducting Cyclotron Laboratory, Michigan State University, East Lansing, MI, November 11-13, 1993.

10. "Density, Temperature and Collective Motion: Ingredients for Multifragmentation”, Reaction Mechanisms Workshop, Michigan State University, East Lansing, MI. November 11-13, 1993.

9. “Expansion Effects in Heavy-Ion Induced Multifragmentation: What Role Do Compressional Effects Play?”, Symposium on Hot Nuclear Matter, National Meeting of the American Chemical Society, Chicago, IL, August 23-25 1993.

8. “Multifragment Emission in the Reaction $^{36}Ar + ^{197}Au$ at E/A= 35,50,80, and 110 MeV”, Eighth Winter Workshop on Nuclear Dynamics, Jackson Hole, Wyoming, January 18-25, 1992.

7. “Fragment Production and the Road to Disassembly”, Symposium on Nucleus-Nucleus Collisions, National Meeting of the American Chemical Society, New York, New York, August 26-28 1991.

6. “Probing the Limits of Stability of Excited Nuclear Matter”, Nuclear Structure Research Lab, University of Rochester, Rochester, N.Y., July 17, 1991

5. “Probing the Limits of Nuclear Stability with Intermediate Energy Heavey-Ions”, Department of Chemistry, Indiana University, Bloomington, Indiana, November 26, 1990.

4. “The MSU Miniball”, Workshop on the Next Generation Detector for Intermediate Energy Studies at the Bevelac, LBL, Berkeley, Calif., March 20-22, 1989.

3. “The Role of the Potential Energy Surface in the Evolution of Mass and Charge Asymmetry in Strongly Damped Heavy-Ion Reactions”, Department of Chemistry, University of Rochester, Rochester, New York, December 15, 1987.

2. “Statics, Dynamics, and the Evolution of Mass and Charge Asymmetry in Strongly Damped Heavy-Ion Reactions”, National Superconducting Cyclotron Laboratory, Michigan State University, East Lansing, Michigan, August 19, 1987.

1. “Statics, Dynamics, and the Evolution of Mass and Charge Asymmetry in Strongly Damped Heavy-Ion Reactions”, Nuclear Structure Research Laboratory, University of Rochester, Rochester, New York, August 13, 1987.

Selected Contributed Talks

92. High-rate axial-field ionization chamber for particle identification of Radioactive beams, Blake Wiggins, APS April Meeting , January 29, 2017, Washington, DC

91. Enhancement of fusion at near-barrier energies for neutron-rich light nuclei: $^{19}O + ^{12}C$, Justin Vadas, APS April Meeting , January 29, 2017, Washington, DC

90. Measuring the fusion cross-section of $^{39,47}K + ^{28}Si$ at near barrier energies, Justin Vadas, APS April Meeting , January 29, 2017, Washington, DC

89. Measuring position in 2-dimensions using induced signals in a microchannel plate detector, Blake Wiggins, APS April Meeting , January 29, 2017, Washington, DC

88. Does the α Cluster Structure in Light Nuclei Persist Through the Fusion Process? Sylvie Hudan, FUSTIPEN Workshop on dynamical cluster formation and correlations in heavy-ion collisions within transport models and experiments, May 17-19, 2016, GANIL, Caen, France

87. Exploring the spatial resolution of position-sensitive microchannel plate detectors, Blake Wiggins, APS April Meeting, April 18, 2016, Salt Lake City, UT

86. Experimental Evidence for a Fusion Enhancement in $^{19}O + ^{12}C$ at Near Barrier Energies, Varinderjit Singh, APS April Meeting, April 16, 2016, Salt Lake City, UT

85. Measuring the Fusion Cross-Section of $^{18}O + ^{12}C$ with Low-Intensity Beams Near and Below the Coulomb Barrier, Tracy K. Steinbach, APS April Meeting, April 16, 2016, Salt Lake City, UT

84. Does the alpha cluster structure in light nuclei persist through the fusion process?, Justin Vadas, APS April Meeting, April 16, 2016, Salt Lake City, UT

83. Development of a Novel Position-Sensitive Microchannel Plate Detector, Blake Wiggins, Fall DNP Meeting, October 30, 2015, Santa Fe, NM

82. Simulating the Growth of a Charge Cloud for a Microchannel Plate Detector, Davinder Siwal, Fall DNP Meeting, October 30, 2015, Santa Fe, NM

81. Measurement of the Fusion Excitation Function for 19O + 12C at Near Barrier Energies Varinderjit Singh Fall DNP Meeting, October 29, 2015, Santa Fe, NM

80. Alpha Emission in the De-excitation of 30Si at E* = 30 to 38 MeV, Justin Vadas, APS April Meeting, April 2015, Baltimore, MD

79. Measuring the Fusion Cross-Section of 18O+12C with Low-Intensity Beams at Energies Near and Below the Coulomb Barrier, Tracy K. Steinbach, APS April Meeting, April 2015, Baltimore, MD

78. Measuring the Fusion Cross-section of Light Nuclei with Low-Intensity Beams, Tracy Steinbach, Kyle Brown, Sylvie Hudan, Romualdo deSouza, April Meeting, American Physical Society, April 5-8 2014, Savannah Ga.

77. Learning about the Symmetry Energy through the Lens of Isospin Transport, R.T. deSouza S.Hudan, K. Brown, April Meeting, American Physical Society, April 5-8 2014, Savannah Ga.

.7 6. Charged Particle Characteristics of the $^{124}Xe+^{112,124}Sn$ reactions at 50A MeV A.B. McIntosh , S. Hudan , Z. Gosser , C.J. Metelko , M. Rudolph , R. Yanez , R.T. de Souza , A. Chbihi , M. Famiano , M.O. Fregeau , J. Gauthier , J. Moisan , R. Roy , C. Schwarz , S. Bianchin , W. Trautmann, April Meeting, American Physical Society, May 2-5 2009, Denver, CO.

75. Isotopic Trends in dynamical breakup, S. Hudan, Romualdo deSouza, APS April Meeting 2012, March 31 – April 3, Atlanta, GA.

74. Probing the dynamics of heavy ion collisions via two-particle correlations, Z. Chajecki, V. Henzl, M. Kilburn, D. Henzlova, W.G. Lynch, D. Brown, D. Coupland, P. Danielewicz, C. Herlitzius, A. Rogers, J. Lee, B. Tsang, A. VanderMolen, M. Wallace, M. Youngs, Y. Sun, G. Verde, S.Hudan, R. deSouza, A. Chbihi, S. Lukyanov, L. Sobotka, 2011 Fall Meeting of the APS Division of Nuclear Physics, Oct. 26-29, East Lansing, MI

73. Isotopic trends in dynamical breakup, Sylvie Hudan, Romualdo deSouza, Alan McIntosh, 2011 Fall Meeting of the APS Division of Nuclear Physics, Oct. 26-29, East Lansing, MI

72. Fusion of neutron-rich O ions in a carbon target at near barrier energies, Romualdo deSouza, M.J. Rudolph, Z.Q.Gosser, K. Brown, S. Hudan, A .Chbihi, B. Jacquot, M. Famiano, F. Liang, D. Shapira, D. Mercier, 2011 Fall Meeting of the APS Division of Nuclear Physics, Oct. 26-29, East Lansing, MI

71. Developing a technique for measuring the fusion of neutron-rich nuclei at near barrier energies, Kyle Brown, M.J. Rudolph, Z.Q.Gosser, S. Hudan, R.T. deSouza, M. Famiano, 2011 Fall Meeting of the APS Division of Nuclear Physics, Oct. 26-29, East Lansing, MI

70. Measuring near and sub-barrier fusion of neutron-rich oxygen nuclei on a carbon target, R.T. deSouza , Z. Gosser , M.J. Rudolph , B. Floyd , S. Hudan , A.B. McIntosh , H. Dussan , C.J. Horowitz , M. Famiano , A. Chbihi , J.-P. Wieleczko , C. Gross , F. Liang , D. Shapira , R. Varner , I. Pawelczak , M. Quinlan , Y.T. Tsai , W.U. Schroeder , J. Toke, April Meeting, American Physical Society, May 2-5 2009, Denver, CO.

69. Mid-peripheral collisions around the Fermi energy: comparison with an event generator, Sylvie Hudan , A.B. McIntosh , Z. Gosser , C. Metelko , M. Rudolph , R. Yanez , R. de Souza , A. Chbihi , M. Famiano , M.O. Fregeau , J. Gauthier , J. Moisan , R. Roy , S. Bianchin , C. Schwarz, W. Trautmann , D. Durand, *April meeting*, American Physical Society, May 2-5 2009, Denver, CO.

68. Isospin effects in two-particle correlation functions , Vladimir Henzl, NSCL MSU, D. Henzlova*, M. Famiano*, M. Kilburn*, W. Lynch*, D. Coupland*, J. Elson*, C. Herlitzius*, S. Hudan*, J. Lee*, S. Lukyanov*, A.Rogers*, A. Sanetullaev*, R. De Souza*, L. Sobotka*, Z. Sun*, B. Tsang*, A. Vander Molen**, G. Verde*, M.Wallace*, M. Youngs*,*4π+HIRA Collaboration, American Physical Society April Meeting, St. Louis, MO, April 2008

67. MASE (Multiplexed Analog Shaper Electronics): A novel approach to readout of a highly segmented silicon detector array1 , S. Hudan, C.J. Metelko, M. Hodek, R.T. De Souza, Department of Chemistry and IUCF, Indiana University, A. Alexander, J. Poehlman, Department of Chemistry, Indiana University, American Physical Society April Meeting, St. Louis, MO, April 2008

66. Isotope ratios measured in symmetric and asymmetric ^{40,48}Ca+^{40,48}Ca collisions, D. Henzlova, NSCL MSU, D. Brown**, B. Charity*, A. Chbihi*, D. Coupland*, R. De Souza*, J. Elson*, M. Famiano*, V. Henzl*, S. Hudan*, M. Kilburn*, J. Lee*, S. Lukyanov*, B. Lynch*, A. Rogers*,

A. Sanetullaev*, L. Sobotka*, Z. Sun*, B. Tsang*, G. Verde*, M. Wallace*, M. Youngs*, G. Westfall**, A. Vander Molen**, *HIRACollaboration, **4pi Collaboration, American Physical Society April Meeting, St. Louis, MO, April 2008

65. Experimental Exploration of ^{69}Br and the rp-Process ^{68}Se Waiting Point , A.M. Rogers*, NSCL MSU, M.A. Famiano*, M.S. Wallace*, M.-J. Van Goethem*, F. Delaunay*, W.G. Lynch*, M.B. Tsang*, M. Mocko*, J. Lee*, R.T. De Souza*, S. Hudan*, L.G. Sobotka*, R.J. Charity*, J. Elson*, S. Lobastov, D. Shapira, D. Bazin, A. Gade, G. Verde*, *HIRA, American Physical Society April Meeting, St. Louis, MO, April 2008

64. Detection of Neutrons and Charged-Particles emitted in Peripheral and Mid-Peripheral Collisions of ^{124,136}Xe and ^{112,124}Sn Nuclei at E/A = 50 MeV , A.B. Mcintosh, J. Black, S. Hudan, C.J. Metelko, R. Yanez, R.T. De Souza, Indiana Univ., A. Chbihi, Ganil, M. Famiano, W. Michigan Univ., M.O. Fregeau, J. Gauthier, J. Moisan, R. Roy, Univ. Laval, S. Bianchin, C. Schwarz, W. Trautmann, GSI, American Physical Society April Meeting, St. Louis, MO, April 2008

Participant in Workshops and Meetings (since 2002)

11. Symposium Organizer, "Nuclear Reactions", Fall 2013 Indianapolis ACS National Meeting, Indianapolis, IN, Sept. 8-9, 2013

10. Session Chair, "Nuclear Reactions", Fall 2013 Indianapolis ACS National Meeting, Indianapolis, IN, Sept. 8, 2013

9. Session Chair, "Nuclear Fragmentation from Equilibrium to Dynamics", Nuclear Chemistry Gordon Conference, Colby Sawyer College, New London, NH, June 9-14, 2013

8. Session Chair, Frontiers of Nuclear Chemistry Research: Graduate Student Research at the 236th American Chemical Society National Meeting, Philadelphia, PA, August 17-21, 2008.

7. Session Organizer, Frontiers of Nuclear Chemistry Research: Graduate Student Research at the 236th American Chemical Society National Meeting, Philadelphia, PA, August 17-21, 2008.

6. Organizing Committee At-Large Member, 20th Biennial Conference on Chemical Education (BCCE), Indiana University, Bloomington, IN, July 27-31, 2008

5. Nuclear Chemistry Gordon Research Conference 2008, New London, NH.

4. Academic Research Initiative, DNDO, Dept. of Homeland Security, Washington, D.C. Sept. 2006.

3. Nuclear Chemistry Gordon Research Conference 2006, New London, NH.

2. World Consensus Initiative Post Gordon Workshop 2004, Smith College, Northampton, MA

1. Nuclear Chemistry Gordon Research Conference 2004, New London, NH.

Selected Posters Presented (since 2002)

10. Sensing the Position of a Single Electron Using Induced Signals, Blake Wiggins, Davinder Siwal, R.T. deSouza, 2016 Stockpile Stewardship Academic Programs Symposium, Feb. 16, 2016, Washington D.C.

9. Development and Testing of a Gridless MCP Detector to Measure Fusion Cross-Sections, T.K. Steinbach, Poster, Research Conference on Nuclear Chemistry, Colby-Sawyer College, New London, NH, June 9-14, 2013

8. Simultaneous Detection of Charged Particles and Neutrons in ^{124,136}Xe + ^{112,124}Sn at 50 A MeV, A.B. McIntosh, Poster, *Gordon Research Conference on Nuclear Chemistry*, Colby-Sawyer College, New London, NH, June 15-20, 2008.

7. Proximity decay: Manifestation of tidal forces and nuclear surface interactions in the decay of a short-lived unbound nuclide, A.B. McIntosh, Poster, *Gordon Research Conference on Nuclear Chemistry*, Colby-Sawyer College, New London, NH, June 4-9 2006.

6. Multiplexed analog shaper electronics (MASE), C.J. Metelko, Poster, *Gordon Research Conference on Nuclear Chemistry*, Colby-Sawyer College, New London, NH, June 4-9 2006.

5. USB control of multiplexed shaper electronics for a segmented silicon array, M. Hodek, C.J. Metelko, R.T. de Souza, A. Alexander, Sept. 18-22, 2005, 2nd Joint Meeting of the Nuclear Physics Division of the APS and the Physical Society of Japan.

4. Interplay of initial deformation and Coulomb proximity on nuclear decay, S. Hudan, R. Alfaro, L. Beaulieu, B. Davin, Y. Larochelle, T. Lefort, V.E. Viola, H. Xu, R. Yanez, R. T. de Souza, R.J. Charity, L.G. Sobotka, T.X. Liu, X.D. Liu, W.G. Lynch, R. Shomin, W.P. Tan, A. VanderMolen, A. Wagner, H.F. Xi . Gordon Research Conference (2004).

3. FIRST: A highly segmented forward array for isotopically resolving fragments, T. Paduszynski, S. Hudan, B. Davin, N. Peters, P. S. Sprunger, R.T. de Souza, D. Thériault, J. Gauthier, D. Gingras, F. Grenier, F. Moisan, R. Roy, C. St-Pierre, E. Bell, J. Garey, A. Keksis, S. Parketon, C. Richers, D.V. Shetty, G.A. Souliotis, B. Stein, S. Soisson, S.J. Yennello. Gordon Research Conference (2004).

2. The High Resolution Array (HiRA): Silicon Detector Status Report, A. Caraley and "The HiRA Collaboration". Gordon Research Conference (2002).

1. Isospin enrichment of the mid-rapidity zone?, S. Hudan, H. Xu, R. Alfaro, B. Davin, L. Beaulieu, Y. Larochelle, T. Lefort, R. Yanez, and R.T. de Souza, T.X. Liu, X.D. Liu, W.G. Lynch, R. Shomin, W.P. Tan, M.B. Tsang, A. Vander Molen, A. Wagner, H.F. Xi, and C.K. Gelbke, R.J. Charity and L.G. Sobotka. Gordon Research Conference (2002).

Ph.D. Theses Supervised

Todd Hamilton	Multifragmentation of Highly Excited Nuclei
Todd A. Bredeweg	Heavy-Ion-Induced Ternary Fission as a Probe of the Dynamical Decay of Excited Nuclei, 2001
Brian P. Davin	Development of LASSA: A Large Area Silicon Strip Array for Nuclear Reaction Studies and Investigation Of Mid-Velocity Fragment Emission in ^{14}Cd + ^{92,98}Mo Reactions at E/A = 50 MeV, 2001
Alan B. McIntosh	Binary and Ternary Breakup of Excited Projectile-like Fragments Produced in Collisions of ^{124,136}Xe Nuclei with ^{112,124}Sn Targets at E/A = 50 MeV, 2010
Tracy K. Steinbach	Near and Sub-Barrier Fusion of Neutron-Rich Oxygen and Carbon Nuclei Using Low-Intensity Beams, 2016

M.S. Theses Supervised

Nickie Peters	Fission Probabilities as a Probe to Study the Fission Barrier Landscape of Sub-Actinide Nuclei, 2006
Michael Rudolph	Measuring fusion cross-sections for the $^{20}O + ^{12}C$ system at near barrier energies, 2011
Zachary Q. Gosser	Using induced signals to sense position with a microchannel plate Detector, 2012