Curriculum Vitae

Anna Maria Simon

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Appointments

Assistant Professor — *July 2014 - present*
Department of Physics, University of Notre Dame, IN, USA

Postdoctoral Researcher — *Sept. 2013 - July 2014*
Department of Physics, Gottwald Center for the Sciences, University of Richmond, VA, USA

Research Associate — *Oct. 2010 - Aug. 2013*
National Superconducting Cyclotron Laboratory, Michigan State University, East Lansing, MI, USA

Education

Ph.D. in Physics — *2006 - 2010*
Jagiellonian University, Kraków, Poland
- Ph. D. Dissertation: *Correlated Radiative Electron Capture in Ion-Atom Collisions*, (arXiv: 1008.5317)

M.Sc. in Physics — *2001 - 2006*
Jagiellonian University, Kraków, Poland
- Master's Thesis: *Interactions of Heavy Ions Produced in Penning Source with Gas Targets*

Research Experience

University of Notre Dame — *Jul. 2014 - present*
Notre Dame, IN
- operation of the tandem Van de Graaff accelerator
- design of a segmented NaI(Tl) summing detector with a digital DAQ
- network calculations using NucNet Tools

Texas A&M — *September 2013*
College Station, TX
- Experiments utilizing the STARLiTeR setup

National Superconducting Cyclotron Laboratory, Michigan State University — *Oct. 2010 - Aug. 2013*
East Lansing, MI, USA
- experiments utilizing the SuN, MONA, GRETINA, SEGA detection systems
- digital data acquisition system (DDAS)
- network calculations using NucNet Tools

Western Michigan University — *Oct. 2008 - present*
Kalamazoo, MI, USA
- operation of the Western Michigan University's Van de Graaff accelerator
- experiments using Si(Li) x-ray detectors with solid and gas targets

GSI Helmholtzzentrum für Schwerionenforschung GmbH — *Aug. 2005 - 2010*
Darmstadt, Germany
- experiments utilizing HPGe detectors and gas-jet target on the ESR storage ring

Forschungzentrum Jülich — *Aug. 2005*
Jülich, Germany
- Summer Student Program

Jagiellonian University *Oct. 2005 - Jun. 2010*
Kraków, Poland
- experiments using Penning ion source, gas chamber and magnetic mass spectrometer dedicated to low energy ion-atom collision experiments

Recent seminars

Where do all the elements come from? Nuclear physics for the stellar p-process

Nov. 03, 2014, Physics Department Colloquium, Western Michigan University, Kalamazoo, MI

Where do all the elements come from? Nuclear physics for the stellar p-process

June 02, 2015, Nuclear Physics Department Colloquium, Jagiellonian University, Krakow, Poland

Recent conference presentations

Application of the Oslo method to high resolution gamma spectra

2015 Fall Meeting of the APS DNP, October 28-31, 2015, Santa Fe, NM

Sensitivity of the p-nuclei production to the nuclear input in type II supernovae

p-process workshop 2015: status and outlook, June 10-13, 2015, Limassol, Cyprus

Nuclear input for the p-process

APS April Meeting 2015, April 11-14, 2015, Baltimore, MD

Stewardship Science at the University of Richmond

2014 Stewardship Science Academic Programs (SSAP) Symposium, February 19-20, 2014, North Bethesda, MD

Teaching

PHYS 60070 - Computing and data analysis for physicists *Fall 2014, Fall 2015*
Graduate course in C++ and ROOT data analysis

PHYS 10310 - General Physics I *Spring 2015, Spring 2016*
Introductory physics course for engineers

Outreach

REU Program *Summer 2015*
Supervision of Brendan Murphy
- Lecture for REU Program participants: *Where do all the elements come from? Overview of the stellar nucleosynthesis processes,* July 22, 2015

Other

Member of the American Physical Society *Oct. 2008 - present*

Journal Referee *2011 - present*
Physical Review Letters, Physical Review C, Nuclear Physics A

PH.D. Defense Committee Member for James Matta *Jul. 13, 2015*
Department of Physics, University of Notre Dame

Faculty Senate, College of Science Representative *Sep. 2015 - present*
University of Notre Dame

Recruitment Committee *Sep. 2014 - present*
Department of Physics, University of Notre Dame

Computer Committee *Sep. 2014 - present*
Department of Physics, University of Notre Dame

Publications - refereed journals - since 2010

[1] A. Gumberidze, A. Surzhykov, D. Thorn, C. Fontes, B. Najjari, A. Voitkiv, S. Fritzsche, D. Banas, H. Beyer, W. Chen, R. DuBois, S. Geyer, R. Grisenti, S. Hagmann, M. Hegewald, S. Hess, C. Kozhuharov, R. Maertin, N. Petridis, R. Reuschl, A. Simon, U. Spillmann, M. Trassinelli, S. Trotsenko, G. Weber, D. Winters, N. Winters, D. Yu, and T. Stoehlker. *Ground-state excitation of heavy highly-charged ions.* Journal of Physics B: Atomic, Molecular and Optical Physics, **48** (2015) 144006

[2] P. Humby, A. Simon, C. W. Beausang, T. J. Ross, R. O. Hughes, J. T. Burke, R. J. Casperson, J. Koglin, S. Ota, J. M. Allmond, M. McCleskey, E. McCleskey, A. Saastamoinen, R. Chyzh, M. Dag, K. Gell, T. Tarlow, and G. Vyas. *Improved measurement of the half-life of the J_π=8$^-$ nuclear isomer ^{152m_2}Eu.* Physical Review C, **91** (2015) 024322

[3] E. Klopfer, J. Brett, P. DeYoung, A. Dombos, S. Quinn, A. Simon, and A. Spyrou. *SuNSCREEN: A cosmic-ray veto detector for capture-reaction measurements.* Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, **788** (2015) 5

[4] F. Naqvi, S. J. Quinn, A. Spyrou, A. Battaglia, M. Couder, P. A. DeYoung, A. C. Dombos, X. Fang, J. Görres, A. Kontos, Q. Li, S. Lyons, D. Robertson, A. Simon, K. Smith, M. K. Smith, E. Stech, W. P. Tan, and M. Wiescher. *Proton capture cross section of ^{72}Ge and astrophysical implications.* Physical Review C, **92** (2015) 025804

[5] S. B. Schwartz, C. Wrede, M. B. Bennett, S. N. Liddick, D. Pérez-Loureiro, A. Bowe, A. A. Chen, K. A. Chipps, N. Cooper, D. Irvine, E. McNeice, F. Montes, F. Naqvi, R. Ortez, S. D. Pain, J. Pereira, C. Prokop, J. Quaglia, S. J. Quinn, J. Sakstrup, M. Santia, S. Shanab, A. Simon, A. Spyrou, and E. Thiagalingam. *Observation of Doppler broadening in β-delayed proton-γ decay.* Phys. Rev. C, **92** (2015) 031302

[6] A. Simon, M. Beard, A. Spyrou, S. J. Quinn, B. Bucher, M. Couder, P. A. DeYoung, A. C. Dombos, J. Görres, A. Kontos, A. Long, M. T. Moran, N. Paul, J. Pereira, D. Robertson, K. Smith, E. Stech, R. Talwar, W. P. Tan, and M. Wiescher. *Systematic study of (α, γ) reactions for stable nickel isotopes.* Physical Review C, **92** (2015) 025806

[7] C. Wrede, M. Bennett, S. Liddick, D. Bardayan, A. Bowe, B. Brown, A. Chen, K. Chipps, N. Cooper, C. Fry, B. Glassman, D. Irvine, J. José, C. Langer, N. Larson, E. McNeice, Z. Meisel, F. Montes, F. Naqvi, S. Pain, P. O'Malley, R. Ortez, W. Ong, J. Pereira, D. Pérez-Loureiro, C. Prokop, J. Quaglia, S. Quinn, M. Santia, H. Schatz, S. Schwartz, A. Simon, S. Shanab, A. Spyrou, S. Suchyta, E. Thiagalingam, P. Thompson, and M. Walters. *β Decay as a Probe of Explosive Nucleosynthesis in Classical Novae.* Physics Procedia, **66** (2015) 532

[8] C. Langer, F. Montes, A. Aprahamian, D. Bardayan, D. Bazin, B. Brown, J. Browne, H. Crawford, R. Cyburt, C. Domingo-Pardo, A. Gade, S. George, P. Hosmer, L. Keek, A. Kontos, I. Lee, A. Lemasson, E. Lunderberg, Y. Maeda, M. Matos, Z. Meisel, S. Noji, F. Nunes, A. Nystrom, G. Perdikakis, J. Pereira, S. Quinn, F. Recchia, H. Schatz, M. Scott, K. Siegl, A. Simon, M. Smith, A. Spyrou, J. Stevens, S. Stroberg, D. Weisshaar, J. Wheeler, K. Wimmer, and R. Zegers. *Determining the rp-Process Flow through ^{56}Ni: Resonances in ^{57}Cu(p, γ)^{58}Zn Identified with GRETINA.* Physical Review Letters, **113** (2014) 32502

[9] S. Quinn, A. Spyrou, E. Bravo, T. Rauscher, A. Simon, A. Battaglia, M. Bowers, B. Bucher, C. Casarella, M. Couder, P. DeYoung, A. Dombos, J. Görres, A. Kontos, Q. Li, A. Long, M. Moran, N. Paul, J. Pereira, D. Robertson, K. Smith, M. Smith, E. Stech, R. Talwar, W. Tan, and M. Wiescher. *Measurement of the ^{58}Ni(α,γ)^{62}Zn reaction and its astrophysical impact.* Physical Review C, **89** (2014) 54611

[10] S. Quinn, A. Spyrou, A. Simon, A. Battaglia, M. Bowers, B. Bucher, C. Casarella, M. Couder, P. DeYoung, A. Dombos, J. Greene, J. Görres, A. Kontos, Q. Li, A. Long, M. Moran, N. Paul, J. Pereira, D. Robertson, K. Smith, M. Smith, E. Stech, R. Talwar, W. Tan, and M. Wiescher. *First application of the γ-summing technique in inverse kinematics.* Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, **757** (2014) 62

[11] A. Spyrou, S. Liddick, A. Larsen, M. Guttormsen, K. Cooper, A. Dombos, D. Morrissey, F. Naqvi, G. Perdikakis, S. Quinn, T. Renstrom, J. Rodriguez, A. Simon, C. Sumithrarachchi, and R. Zegers. *Novel technique for Constraining r-Process (n, γ) Reaction Rates.* Physical Review Letters, **113** (2014) 232502

[12] S. Suchyta, S. N. Liddick, Y. Tsunoda, T. Otsuka, M. B. Bennett, A. Chemey, M. Honma, N. Larson, C. J. Prokop, S. J. Quinn, N. Shimizu, A. Simon, A. Spyrou, V. Tripathi, Y. Utsuno, and J. M. VonMoss. *Shape coexistence in ^{68}Ni.* Physical Review C, **89** (2014) 021301

[13] A Simon, J. Fallis, A. Spyrou, A. M. Laird, C. Ruiz, L. Buchmann, B. R. Fulton, D. Hutcheon, L. Martin, D. Ottewell, and A. Royas. *Radiative capture reactions with heavy beams: extending the capabilities of DRAGON.* The European Physical Journal A, **49** (2013) 1

[14] A. Simon, S. J. Quinn, A. Spyrou, A. Battaglia, I. Beskin, A. Best, B. Bucher, M. Couder, P. A. DeYoung, X. Fang, J. Görres, A. Kontos, Q. Li, S. N. Liddick, A. Long, S. Lyons, K. Padmanabhan, J. Peace, A. Roberts, D. Robertson, K. Smith, M. K. Smith, E. Stech, B. Stefanek, W. P. Tan, X. D. Tang, and M. Wiescher. *SuN: Summing NaI(Tl) Gamma-Ray Detector for Capture Reaction Measurements.* Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, **703** (2013) 16

[15] A Simon, A. Spyrou, T. Rauscher, C. Fröhlich, S. Quinn, A. Battaglia, A. Best, B. Bucher, M. Couder, P. DeYoung, X. Fang, J. Görres, A. Kontos, Q. Li, L.-Y. Lin, A. Long, S. Lyons, A. Roberts, D. Robertson, K. Smith, M. Smith, E. Stech, B. Stefanek, W. Tan, X. Tang, and M. Wiescher. *Systematic study of (p, γ) reactions on Ni isotopes.* Physical Review C, **87** (2013) 055802

[16] M. B. Bennett, C. Wrede, K. A. Chipps, J. José, S. N. Liddick, M. Santia, A. Bowe, A. A. Chen, N. Cooper, D. Irvine, E. McNeice, F. Montes, F. Naqvi, R. Ortez, S. D. Pain, J. Pereira, C. Prokop, J. Quaglia, S. J. Quinn, S. B. Schwartz, S. Shanab, A. Simon, A. Spyrou, and E. Thiagalingam. *Classical-Nova Contribution to the Milky Way's ^{26}Al Abundance: Exit Channel of the Key ^{25}Al(p,γ)^{26}Si Resonance.* Physical Review Letters, **111** (2013) 232503

[17] A. Gumberidze, D. Thorn, C. Fontes, B. Najjari, H. Zhang, A. Surzhykov, A. Voitkiv, S. Fritzsche, D. Banaś, H. Beyer, W. Chen, R. DuBois, S. Geyer, R. Grisenti, S. Hagmann, M. Hegewald, S. Hess, P. Indelicato, C. Kozhuharov, R. Märtin, I. Orban, N. Petridis, R. Reuschl, A. Simon, U. Spillmann, A. Surzhykov, M. Trassinelli, G. Weber, D. Winters, N. Winters, D. Yu, and T. Stöhlker. *Electron-and Proton-Impact Excitation of Hydrogenlike Uranium in Relativistic Collisions.* Physical Review Letters, **110** (2013) 213201

[18] N. Larson, S. Liddick, M. Bennett, A. Bowe, A. Chemey, C. Prokop, A Simon, A. Spyrou, S. Suchyta, S. Quinn, S. Tabor, P. Tai, V. Tripathi, and J. VonMoss. *High efficiency beta-decay spectroscopy using a planar germanium double-sided strip detector.* Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment

[19] S. Quinn, A. Spyrou, A. Simon, A. Battaglia, M. Couder, P. DeYoung, A. Dombos, X. Fang, J. Görres, A. Kontos, Q. L. andS Lyons, B. Meyer, G. F. Peaslee, D. Robertson, K. Smith, M. Smith, E. Stech, W. Tan, X. Tang, and M. Wiescher. *Probing the production mechanism of the light p-process nuclei.* Physical Review C, **88** (2013) 011603

[20] A. Spyrou, S. J. Quinn, A. Simon, T. Rauscher, A. Battaglia, A. Best, B. Bucher, M. Couder, P. A. DeYoung, A. C. Dombos, X. Fang, J. Görres, A. Kontos, Q. Li, L. Y. Lin, A. Long, S. Lyons, B. S. Meyer, A. Roberts, D. Robertson, K. Smith, M. K. Smith, E. Stech, B. Stefanek, W. P. Tan, X. D. Tang, and M. Wiescher. *Measurement of ^{90,92}Zr(p,γ)^{91,93}Nb reaction cross sections.* Physical Review C, **88** (2013) 045802

[21] Z. Kohley, J. Snyder, T. Baumann, G. Christian, P. DeYoung, J. Finck, R. Haring-Kaye, M. Jones, E. Lunderberg, B. Luther, S. Mosby, A. Simon, J. Smith, A. Spyrou, S. Stephenson, and M. Thoennessen. *Unresolved Question of the ^{10}He Ground State Resonance.* Physical Review Letters, **109** (2012) 252301

[22] A. Gumberidze, T. Stöhlker, D. Banaś, H. F. Beyer, C. Brandau, H. Bräuning, S. Geyer, S. Hagmann, S. Hess, P. Indelicato, P. Jagodziński, C. Kozhuharov, A. Kumar, D. Liesen, R. Märtin, R. Reuschl, S. Salem, A. Simon, U. Spillmann, M. Trassinelli, S. Trotsenko, G. Weber, and D. F. A. Winters. *Precision Studies of Fundamental Atomic Structure with Heaviest Few-Electron Ions.* Hyperfine Interactions, **199** (2011) 59

[23] D. Thorn, A. Gumberidze, S. Trotsenko, D. Banaś, H. Beyer, C. Bostock, I. Bray, W. Chen, R. DuBois, C. Fontes, S. Fritzsche, D. Fursa, R. Grisenti, S. Geyer, S. Hagmann, S. Hess, M. Hegewald, C. Kozhuharov, R. Märtin, I. Orban, N. Petridis, R. Reuschl, A. Simon, U. Spillmann, A. Surzhykov, M. Trassinelli, G. Weber, D. Winters, N. Winters, H. Zhang, and T. Stöhlker. *Polarization and Anisotropic Emission of K-shell Radiation from Heavy Few Electron Ions.* Canadian Journal of Physics, **89** (2011) 513

[24] A. Simon, A. Warczak, T. ElKafrawy, and J. A. Tanis. *Radiative Double Electron Capture in Collisions of O^{8+} Ions with Carbon.* Physical Review Letters, **104** (2010) 123001

[25] S. Trotsenko, A. Kumar, A. V. Volotka, D. Banaś, H. F. Beyer, H. Bräuning, S. Fritzsche, A. Gumberidze, S. Hagmann, S. Hess, P. Jagodziński, C. Kozhuharov, R. Reuschl, S. Salem, A. Simon, U. Spillmann, M. Trassinelli, L. C. Tribedi, G. Weber, D. Winters, and T. Stöhlker. *Spectral Shape of the Two-Photon Decay of the 2^1S_0 State in He-Like Tin.* Physical Review Letters, **104** (2010) 33001