

# Daniel W. Bardayan

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## Professional and Educational Experience:

- 2016-present*    **Professor**, Department of Physics, University of Notre Dame
- 2013-2016*    **Associate Professor**, Department of Physics, University of Notre Dame
- 2010-2013*    **Adjunct Associate Professor**, Department of Physics and Astronomy, University of Tennessee
- 2008-2013*    **Senior Research Staff**, Physics Division, Oak Ridge National Laboratory
- 2007-2009*    **Adjunct Assistant Professor**, Department of Physics and Astronomy, University of Tennessee
- 2003-2007*    **Research Staff**, Physics Division, Oak Ridge National Laboratory
- 2001-2003*    **Wigner Fellow**, Physics Division, Oak Ridge National Laboratory
- 1999-2001*    **Postdoctoral Assoc.**, University of North Carolina at Chapel Hill
- 1993-1999*    **M.S., M. Phil., Ph.D.**, Physics. Yale University.  
**Dissertation:** Explosive  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$  Burning Through the  $3^+$  State in  $^{18}\text{Ne}$   
**Advisor:** Peter D. Parker  
GPA: All Honors (4.0 equivalent)
- 1988-1993*    **B.S.**, Physics. Mathematics minor. Tennessee Technological University.  
GPA: 3.94, Summa Cum Laude

## Awards & Honors:

- 2013-present*    2017 DOE/NNSA Office of International Nuclear Safeguards Joule Award for outstanding contributions related to measuring the " $^{19}\text{F}(\alpha,n)^{22}\text{Na}$  Cross Section for Uranium Enrichment".
- 2008-2013*    Awarded 2011 ORNL Significant Event Award for making "The first proton-transfer measurement on  $^{18}\text{F}$ ".

Awarded 2010 U.S. Department of Energy (DOE) Office of Science Early Career Research Program Award.

Presented 2010 ORNL Scientific Accomplishment by a Team award for the "First experimental demonstration that tin-132 is a "doubly-magic" nucleus, the first such nucleus that is neutron-rich and unstable [and one of only 7 of all nuclei]."

Presented 2010 ORNL DIRECTOR'S AWARD for Research Accomplishment of the year in Science and Technology.

Selected as 2008 Kavli Fellow. Invited to the National Academies of Sciences Kavli Frontiers of Science Symposium.

2008 Oak Ridge National Laboratory *Significant Event Award* for the "First direct measurement of proton capture on  $^{17}\text{F}$ ".

2003-2007

2005 *Presidential Early Career Award for Science and Engineering (PECASE)* "For innovative precision nuclear spectroscopy measurements clarifying the production the production of elements and radioisotopes in exploding stars, and for mentoring undergraduate, graduate and post-doctoral associates as well as organizing a summer school for graduate students to explore exotic beam physics."

2005 DOE Office of Science *Early Career Scientist and Engineer Award* "For his innovative precision nuclear spectroscopy measurements at the ORNL Holifield Radioactive Ion Beam Facility (HRIBF) clarifying the production of elements and radioisotopes in exploding stars..."

2006 Oak Ridge National Laboratory *Significant Event Award* for "safely developing a unique, intense beam of radioactive beryllium-7 for nuclear astrophysics experiments".

2004 Oak Ridge National Laboratory *Significant Event Award* for the "First Neutron-Transfer Reaction Measurement on a Nucleus in the Astrophysical r-process Path".

2003 Oak Ridge National Laboratory *Early Career Award for Scientific Achievement* for "Innovative precision spectroscopy measurements that clarify the production of elements and radioisotopes in exploding stars."

2001-2003

2001 American Physical Society *Dissertation Award in Nuclear Physics* for the "Innovative experimental development and measurement of the  $p(^{17}\text{F},p)^{17}\text{F}$  elastic scattering reaction at the Oak Ridge Holifield Radioactive Ion Beam Facility

in order to find the key low-energy s-wave resonance for the  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$  reaction.”

ORNL *Wigner Fellowship*. Selected over 33 other candidates from several different fields of scientific research.

2001 *Distinguished Young Alumnus* award from Tennessee Technological University.

1999-2001 Received the UT-Battelle *Author of the Year* award for "observing the astrophysically important  $3^+$  state in neon-18 via elastic scattering of a radioactive fluorine-17 beam from hydrogen-1".

Received the UT-Battelle *Significant Research Accomplishment* award.

1988-1993 Physics Departmental Award, Dean's List, Who's Who Among American College Students, USAA All American Scholar, USAA National Collegiate Academic Honorary Award, Outstanding College Student of America, Tau Kappa Epsilon Scholarship Award, Frederick Culp Scholarship, Wilbur Raatz Scholarship, University Academic Scholarship

### Popular Press Articles:

(Research discussed in the following popular press physics articles.)

- *Physics Today*: COVER ARTICLE-August 2010 issue, and the April, 2001 issue.
- *New Scientist*: April 3, 2014 issue.
- *Physical Review Focus* (<http://focus.aps.org>): July 9, 1999 article.
- *Astronomy Now*, March 9, 2016 issue (<http://astronomynow.com/2016/03/09/dust-grains-could-be-remnants-of-stellar-explosions-billions-of-years-ago/>)
- *UPI* March 8, 2016 story ([http://www.upi.com/Science\\_News/2016/03/08/Meteoritic-dust-came-from-stellar-explosions-older-than-the-sun/2581457466545/](http://www.upi.com/Science_News/2016/03/08/Meteoritic-dust-came-from-stellar-explosions-older-than-the-sun/2581457466545/))
- *Tech Times*, March 9, 2016 story (<http://www.techtimes.com/articles/139686/20160309/dust-grains-from-ancient-stellar-explosions-billions-of-years-ago-may-unveil-secrets-of-our-galaxy.htm>)
- *Sci-News.com* March 11, 2016 story (<http://www.sci-news.com/space/pre-solar-grains-remnants-ancient-novae-03695.html>)
- *Science*: October 1, 1999 issue.
- *Science News*: August 7, 1999 issue.
- *ORNL Review*: Vol. 43, No. 2 (2010) issue, Vol. 38, No. 2 (2005) issue, Vol. 36, No. 1 (2003) issue, Vol. 34, No. 2 (2001) issue, Vol. 33, No. 1 (2000) issue, and the Vol. 32, No. 2 (1999) issue.
- *Contemporary Physics*: Vol. 42, No. 5 (2001) issue.
- *APS News*: March, 2001 issue.

- *Nuclear Physics News*: Vol. 10, No. 2 (2000), Vol. 12, No. 3 (2002), and Vol. 13, No. 3 (2003) issues.
- *DOE Pulse*: No. 228, Feb. 12, 2007 issue.
- *ORNL Reporter*: August 2006, December 2003, March 2001, and August, 1999 issues.
- *TTU Visions Magazine*: Spring 2004, Spring 2002 issue, and the Spring 2001 issues.
- *Cookeville Herald-Citizen Newspaper*: October 4, 2001 issue.
- *The Tennessean Newspaper*: August 6, 2006 issue.
- *The Knoxville News Sentinel Newspaper*: July 28, 2006 edition., and a January 19, 2010 web blog ([http://blogs.knoxnews.com/munger/2010/01/stellar\\_explosions\\_the\\_recover.html#more](http://blogs.knoxnews.com/munger/2010/01/stellar_explosions_the_recover.html#more)).
- *Physics World*: February, 2002 issue., *Physics World News*, “Rare-isotope decay links tiny grains to stellar explosions”, March 16, 2016.
- *Newswise* (<http://www.newswise.com>): Dec 1, 2004 edition, June 2, 2010 edition.
- *Newswise* (<http://www.newswise.com>): Jan. 13, 2020 - Article ID: 725052.
- *APS Press Release for Spring Meeting*: May 2004 meeting.
- *AAS Press Release*: January 2003 meeting.
- *U. S. Department of Energy Press Release*: July 26, 2006.
- *Opportunities in Nuclear Science-A Long-Range Plan for the Next Decade*: April 2002.
- *PhysOrg.com* (<http://www.physorg.com/news2212.html>): Dec. 2, 2004 edition.
- *Oakridger*, July 28, 2006 and Nov. 26, 2003 editions.
- *Sevier County News Newspaper*: August 9, 2006 issue.
- *The Oak Ridge Observer Newspaper*: August 3, 2006 issue.
- *ND Works*: September 19, 2013 edition.

In addition, research with  $^{17}\text{F}$  and  $^{18}\text{F}$  beams named as a highlight of 2006 by Dennis Kovar at the DNP Business Meeting in Nashville, 2006 and in the Department of Energy FY2008 Budget Request ([http://www.cfo.doe.gov/budget/08budget/Content/Volumes/Vol\\_4\\_SC\\_DA.pdf](http://www.cfo.doe.gov/budget/08budget/Content/Volumes/Vol_4_SC_DA.pdf)).

## Grants:

“Transfer Reactions on Unstable Nuclei for Nuclear Science Applications”, Principal Investigator, \$1900K funded by the Department of Energy, Office of Nuclear Physics (2009-2012).

“Studies of Nuclear Reactions that Drive Stellar Explosions and Synthesize the Elements”, Principal Investigator, \$2500K funded by the Department of Energy, Office of Nuclear Physics (2010-2015).

“Development of a high-density gas-jet target for nuclear astrophysics and reaction studies with rare isotope beams”, Co-Principal Investigator, \$1000K funded by the Department of Energy, Office of Nuclear Physics (2011-2014).

“Center of Excellence for Radioactive Ion Beam Studies for Stewardship Science”, Co-Principal Investigator, \$6843K funded by the Department of Energy, National Nuclear Security Administration (2008-2013).

“Nuclear Structure and Nuclear Astrophysics – Renewal October 2013”, Co-Principal Investigator, \$6500K funded by the National Science Foundation (2014-2017).

“Center of Excellence for Radioactive Ion Beam Studies for Stewardship Science”, Co-Principal Investigator, \$7980K funded by the Department of Energy, National Nuclear Security Administration (2013-2018).

“JINA Center for the Evolution of the Elements”, Senior Investigator, \$15020K funded by the National Science Foundation (2014-2019).

“Studies of Nuclear Reactions that Drive Stellar Explosions and Synthesize the Elements”, PI, \$110,735 subcontract from Oak Ridge National Laboratory (2015).

“A Kinematically Complete, Interdisciplinary, and Co-Institutional Measurement of the  $^{19}\text{F}(\alpha, n)$  Cross Section for Nuclear Safeguards Science”, participant, \$1626K funded by the Department of Energy, National Nuclear Security Administration, Sponsor Organization NA-22 (2013-2015).

“Restoration and installation of a world-class spectrometer for nuclear physics experiments at the Notre Dame Nuclear Science Laboratory”, Principal Investigator, \$200K funded by the Notre Dame Equipment Restoration & Renewal Program (2015-2016).

“Sustaining excellence in nuclear science at the University of Notre Dame”, Co-Principal Investigator, \$450K funded by the Nuclear Regulatory Commission (2017-2020).

“Nuclear Structure and Nuclear Astrophysics – Renewal November 2016”, Co-Principal Investigator, \$6160K funded by the National Science Foundation (2017-2020).

“MRI: Development of a unique ion trapping system to test the Standard Model of Physics at the Nuclear Science Laboratory”, Co-Principal Investigator, \$530K funded by the National Science Foundation (2017-2020).

“FY2018 Equipment Restoration and Renewal Program: Repair of the TwinSol Separator”, Principal Investigator, \$150K funded by the University of Notre Dame Office of Research (2018-2019).

### **Selected Professional Activities:**

Chaired National Science Foundation panel review of the Joint Institute for Nuclear Astrophysics (JINA), Notre Dame (October 2010).

Chaired NSF panel review of the NSCL (June 2015).

NSF site visit reviewer of the NSCL (June 2013).

Technical review team of the DIANA proposal (May 2013).

SECAR Collaboration Council (2015-present).

Co-authored *White Paper on Nuclear Astrophysics*, published 2016.

Invited Panelist on Research Collaboration and Career Opportunities for Young Scientists at the Annual Research Meeting of the Office of Science Graduate Fellowship Program (2011).

Member of the Argonne ATLAS Program Advisory Committee (PAC), 2011-2018.

Member of the NSCL Program Advisory Committee (PAC), 2016-2020.

FRIB Users Organization Executive Committee (2016-present).

ATLAS Users Executive Committee (2016-present).

University of California Lab Fees Research Program Invited Reviewer (2012, 2016).

ORNL Seed Money Review Committee (2012-2013).

Lecturer for the 8<sup>th</sup> Exotic Beam Summer School.

“Hands-on” Program Lecturer for the 5<sup>th</sup> *RIA Summer School on Exotic Beam Physics*.

Organizing committee chairperson for the 2006 *HRIBF Workshop on Nuclear Measurements for Astrophysics*.

Organizing committee for the 4<sup>th</sup> *International Conference on Exotic Nuclei and Masses (ENAM04)* and the 1<sup>st</sup> *RIA Summer School on Exotic Beam Physics*. Scientific Advisory Committee for *Nuclear Structure 2010*. Breakout session convener for the *Workshop in Nuclear Radiation Detectors and Technologies* (Jan. 8-9, 2011 Rutgers University and May 24-25, 2012 PNNL). Session convener at the *Nuclear Astrophysics Town Meeting 2012* (October 9-10, 2012 Detroit). Discussion leader of Nuclear Astrophysics session at the *Gordon Research Conference* (June 2013). Organizer Nuclear Astrophysics session at *CAARI2014* (May 2014). Session convener for Explosive Nucleosynthesis meeting at the *Low Energy Community Meeting* (2014). Organized JINA-CEE mini-workshop on *Explosive H and He burning on exotic nuclei* (February 2015). Discussion leader at the *Gordon Research Conference* (June 2015). Organizer of JINA Workshop on *Experiments for X-ray Burst Nucleosynthesis* (May 2016). Advisory Committee for DNP Satellite Workshop on *Radiative Capture Reactions and Recoil Separators* (October 2016). Scientific Advisory Committee *Symposium on Nuclear Physics Cocoyoc* (2016-present). Organizer Nuclear Astrophysics session at *CAARI2016* (November 2016). Organizer Nuclear Astrophysics sessions at *CAARI2018* (August 2018). Organizer Exotic Beam Summer School (July 2020).

Referee on papers published in *Nuclear Physics A*, *European Physical Journal*, *Physical Review C*, *Nuclear Instruments and Methods*, *Astrophysical Journal Letters*, and *Physical Review Letters*, *Physics Letters B*.

Reviewed facility, MRI, and CAREER proposals for the *National Science Foundation* and research grant and Early Career proposals for the Department of Energy, Natural Sciences and Engineering Research Council of Canada, and the U.K. Science and Technology Facilities Council.

Participant in AAPT Workshop for New Physics and Astronomy Faculty (June 2014).

### **Selected Organizational Activities:**

Director of Notre Dame Nuclear Science Lab (2020-present).

HRIBF facility mentor of the *JENSA Gas Jet Target*, *SIDAR* silicon detector array, the *Daresbury Recoil Separator*, the windowless hydrogen gas target, and the *Oak Ridge Rutgers Barrel Array* (ORRUBA).

Education and United Way coordinator for the ORNL Physics Division (2008-2013).

Notre Dame Core Curriculum Integration Committee (2018-present)

Notre Dame International Security Center's (NDISC) Faculty Advisory Board (2018-present)

Notre Dame Physics Department Graduate Admissions Committee (2013-2015).

Notre Dame Physics Department Graduate Curriculum Committee (2013-2015).

Notre Dame Physics Department Undergraduate Curriculum Committee (2019-present).

Notre Dame Physics Department Strategic Planning Committee (2015-2017).

Notre Dame Physics Department Committee on Appointments and Promotions (2016-2018).

Medical Cyclotron Advisory Committee (2014-2015).

Liquid He Advisory Committee (2015-2017).

Graduate Candidacy Committee – Clark Casarella(2014), Abu Amiri (2015), Sabrina Strauss (2015), Chris Seymour (2015), Mike Moran (2015), Qian Liu (2015), Matt Hall (2017), Jake Long (2017), Drew Blankstein (2018), Orlando Gomez (2020).

PhD Examination Committee – Wenting Lu (2015), Clark Casarella (2017), Abu Amiri (2017), Anna Woodard (2018), Matt Hall (2018), Sabrina Strauss (2020), Jacob Long (2020).

Junior Faculty Mentoring Committee – Manoel Couder (2015-2019), Anna Simon (2017-present), Tan Ahn (2018-present), Baddih Assaf (2019-present).

## Teaching Experience:

*2016-present* **Professor, University of Notre Dame**

Physics 10310, Engineering Physics I (Spring 2018, Spring 2019)  
Physics 20065, The Science and Strategy of Nuclear War (Fall 2017, Fall 2018, Fall 2019)

Physics 20061, Nuclear Warfare (Fall 2016)

*2013-2016* **Associate Professor, University of Notre Dame**

Physics 20061, Nuclear Warfare (Fall 2013, Fall 2014, Fall 2015)

Physics 10310, General Physics I for Engineers (Spring 2014, Spring 2015)

*2013-present*

**Undergraduate students mentored:** Shannon Massey (2014), Daniel Votaw (2014), Ben Becker(2015), Will Boeschstein(2015), Allison Olshefke (2015), Yingchao Zhang (2015), Chris Brady (2016-17), Scott Carmichael (2016), Ricky LeBlanc (2016), Ben Shadid (2016), Daniel Galvao-Guerra (2016), James Cotter (2017), Gabriel Brown (2017), Ben Riordan (2017), Emmanuel Garcia Berrios (2017), Noah Applegate (2018), Alyssa Davis (2019), Austin Mitchell (2019), Joe Henning (2019-present).

**Graduate students mentored.:** Matt Hall (2014-2019), Jacob Allen (2015-present), Oscar Hall (2015), Drew Blankstein (2016-present), Sam King (2017), Matt Baines (2019), Louis Caves (2018-2020), Scott Carmichael (2018-present), Chevelle Boomershine (2018-present).

**Post-scholars mentored:** P. D. O'Malley (2014-2017), Jun Hu (2015-2016), Davi Monteiro (2016-2017).

*1998-2013* **Research Staff, Oak Ridge National Laboratory**

**Undergraduate and graduate students mentored:** B.A. Johnson, E. Hannah, J.A. Howard, S. Paulauskas, N. Smith, W. Martin, S. Graves, S. Strauss, J. Wheeler.

**Graduate students mentored:** K.Y. Chae, Z. Ma, R.J. Livesay, S. Pittman, R.P. Fitzgerald, J.S. Thomas, P. D. O'Malley, K. A. Chipps, B. H. Moazen, S. Ahn, A. Ayres, S. Hardy, B. Manning, P. Thompson, T. Pelham.

**Post-doctoral scholars mentored:** L. Sahin, D.W. Visser, M.S. Johnson, K.L. Jones, S. Pain, C. Matei, C.D. Nesaraja, K.Y. Chae, M. Matos, A. Adekola, W. A. Peters, B. H. Moazen, K. Y. Chae, K. A. Chipps, S. T. Pittman, K. T. Schmitt.

*1993-1995* **Laboratory Assistant, Yale University**

Instructed and graded five undergraduate physics laboratory courses.

*1990-1993* **Laboratory Assistant, Tennessee Technological University**

Instructed and graded seven undergraduate physics laboratory courses.



**Professional and Honor Societies:**

*1988-Present* American Physical Society, Division of Nuclear Physics, Southeastern Section of the APS, Prairie Section of the APS, Phi Kappa Phi, Kappa Mu Epsilon, Alpha Lambda Delta, Mortar Board, Society of Physics Students, Sigma Pi Sigma, Physics Club, Alpha Mu Gamma

## Appendix – Publications and Presentations

### Refereed Publications:

(206 refereed publications, 42 as first author including 3 first-authored Letters and 3 first-authored Physical Review C Rapid Communications articles)

1. **Precision half-life measurement of  $^{29}\text{P}$** , J. Long, M. Brodeur, S. Aguilar, M. Baines, D. W. Bardayan, F. D. Becchetti, D. Blankstein, C. Boomershine, D. P. Burdette, A. Clark, B. Frentz, S. L. Henderson, J. M. Kelly, J. J. Kolata, B. Liu, K. Macon, P. D. O'Malley, A. Pardo, C. Seymour, S. Strauss, B. Vande Kolk, Phys. Rev. C **101**, 015501 (2020).
2. **SSNAP: The Solenoid Spectrometer for Nuclear AstroPhysics**, J. Allen, P. D. O'Malley, N. Applegate, D. W. Bardayan, D. Blankstein, M. R. Hally, J.J. Kolata, F. D. Becchetti, Nucl. Instrum. Methods A **954**, 161350 (2020).
3. **Spin assignments for  $^{23}\text{Mg}$  levels and the astrophysical  $^{22}\text{Na}(p,\gamma)^{23}\text{Mg}$  reaction**, M. S. Kwag, K. Y. Chae, S. Ahn, D. W. Bardayan, K. A. Chipps, J. A. Cizewski, M. E. Howard, R. L. Kozub, K. Kwak, B. Manning, M. Matos, P. D. O'Malley, S. D. Pain, W. A. Peters, S. T. Pittman, A. Ratkiewicz, M. S. Smith, S. Strauss, Eur. Phys. J. A **56**, 108 (2020).
4. **Precise half-life determination of the mixed-mirror  $\beta$  decaying  $^{15}\text{O}$** , D. P. Burdette, M. Brodeur, D. W. Bardayan, F. D. Becchetti, D. Blankstein, C. Boomershine, L. Caves, S. L. Henderson, J. J. Kolata, B. Liu, J. Long, P. D. O'Malley, S. Y. Strauss, Phys. Rev. C (accepted).
5. **Gamma-ray spectroscopy of astrophysically important states in  $^{39}\text{Ca}$** , M. R. Hall, D. W. Bardayan, T. Baugher, A. Lepailleur, S. D. Pain, A. Ratkiewicz, S. Ahn, J. M. Allen, J. T. Anderson, A. D. Ayangeakaa, J. C. Blackmon, S. Burcher, M. P. Carpenter, S. M. Cha, K. Y. Chae, K. A. Chipps, J. A. Cizewski, M. Febbraro, O. Hall, J. Hu, C. L. Jiang, K. L. Jones, E. J. Lee, P. D. O'Malley, S. Ota, B. C. Rasco, D. Santiago-Gonzales, D. Seweryniak, H. Sims, K. Smith, W. P. Tan, P. Thompson, C. Thornsberry, R. L. Varner, D. Walter, G. L. Wilson, S. Zhu, Phys. Rev. C **101**, 015804 (2020).
6. **Study of the  $^3\text{He}(n,p)^3\text{H}$  reaction at cosmological energies with Trojan horse method**, C. Spampinato, R.G. Pizzone, R. Sparta, M. Couder, W. Tan, V. Burian, K.Y. Chae, G. D'Agata, G.L. Guardo, I. Indelicato, M. La Cognata, L. Lamia, D. Lattuada, J. Mrazek, A. Oliva, S. Palmerini, P.M. Prajapati, G.G. Rapisarda, S. Romano, M.L. Sergi, C. Spitaleri, A. Tumino, M. Wiescher, S. Aguilar, D. Bardayan, D. Blankstein, L. Boccioli, L. Callahan, A. Clark, B. Frentz, M. Hall, A. Gula, S. Henderson, R. Kelmar, Q. Liu, J. Long, A. Majumdar, S. McGuinness, A. Nelson, P. O'Malley, C. Seymour, M. Skulski, J. Wilkinson, EPJ Web of Conferences **227**, 02013 (2020).
7. **Neutron transfer reactions on ground- and isomeric-state  $^{130}\text{Sn}$  beams: Implications for low and high-spin branches of the astrophysical r-process path**, K. L. Jones, A.

- Bey, S. Burcher, J. M. Allmond, S. Ahn, A. Ayres, D. W. Bardayan, J. A. Cizewski, R. F. Garcia-Ruiz, M. E. Howard, R. L. Kozub, J. F. Liang, B. Manning, M. Matos, C.D. Nesaraja, P. D. O'Malley, E. Padilla-Rodal, S. D. Pain, S. T. Pittman, A. Ratkiewicz, K. T. Schmitt, M. S. Smith, D. W. Stracener, R. L. Varner, Phys. Lett. A (submitted).
8. **First direct measurement of  $^{22}\text{Mg}(\alpha,p)^{25}\text{Al}$  and implications for X-ray burst model-observations comparisons**, J. S. Randhawa, Y. Ayyad, W. Mittag, Z. Meisel, T. Ahn, S. Aguilar, H. Alvarez-Pol, D. W. Bardayan, D. Bazin, S. Beceiro-Novo, L. Carpenter, M. Cortesi, D. Cortina-Gil, D. Blankstein, P. Gastis, M. Hall, S. Henderson, J. J. Kolata, T. Mijatovic, F. Ndayisabye, P. O'Malley, J. Pereira, A. Pierre, H. Robert, C. Santamaria, H. Schatz, J. Smith, N. Watwood, J. C. Zamora, Phys. Rev. Lett. (submitted).
  9. **Key  $^{19}\text{Ne}$  states identified affecting  $\gamma$ -ray emission from  $^{18}\text{F}$  in novae**, M. R. Hall, D. W. Bardayan, T. Baugher, A. Lepailleur, S. D. Pain, A. Ratkiewicz, S. Ahn, J. M. Allen, J. T. Anderson, A. D. Ayangeakaa, J. C. Blackmon, S. Burcher, M. P. Carpenter, S. M. Cha, K. Y. Chae, K. A. Chipps, J. A. Cizewski, M. Febraro, O. Hall, J. Hu, C. L. Jiang, K. L. Jones, E. J. Lee, P. D. O'Malley, S. Ota, B. C. Rasco, D. Santiago-Gonzales, D. Seweryniak, H. Sims, K. Smith, W. P. Tan, P. Thompson, C. Thornsberry, R. L. Varner, D. Walter, G. L. Wilson, S. Zhu, Phys. Rev. Lett. **122**, 052701 (2019).
  10. **Resolving the discrepancy in the half-life of  $^{20}\text{F}$** , D. P. Burdette, M. Brodeur, T. Ahn, J. Allen, D. W. Bardayan, F. D. Becchetti, D. Blankstein, G. Brown, B. Frentz, M. R. Hall, S. King, J. J. Kolata, J. Long, K. Macon, A. Nelson, P. D. O'Malley, C. Seymour, M. Skulski, S. Strauss, A. A. Valverde, Phys. Rev. C **99**, 015501 (2019).
  11. **S-wave scattering lengths for the  $^7\text{Be}+p$  system from an R-matrix analysis**, S. N. Paneru, C. R. Brune, R. Giri, R. J. Livesay, U. Greife, J. C. Blackmon, D. W. Bardayan, K. A. Chipps, B. Davids, D. S. Connolly, K. Y. Chae, A. E. Champagne, C. Deibel, K. L. Jones, M. S. Johnson, R. L. Kozub, Z. Ma, C. D. Nesaraja, S. D. Pain, F. Sarazin, J. F. Shriner, Jr., D. W. Stracener, M. S. Smith, J. S. Thomas, D. W. Visser, C. Wrede, Phys. Rev. C **99**, 045807 (2019).
  12. **New  $\gamma$ -ray transitions observed in  $^{19}\text{Ne}$  with implications for the  $^{15}\text{O}(\alpha,\gamma)^{19}\text{Ne}$  reaction rate**, M. R. Hall, D. W. Bardayan, T. Baugher, A. Lepailleur, S. D. Pain, A. Ratkiewicz, S. Ahn, J. M. Allen, J. T. Anderson, A. D. Ayangeakaa, J. C. Blackmon, S. Burcher, M. P. Carpenter, S. M. Cha, K. Y. Chae, K. A. Chipps, J. A. Cizewski, M. Febraro, O. Hall, J. Hu, C. L. Jiang, K. L. Jones, E. J. Lee, P. D. O'Malley, S. Ota, B. C. Rasco, D. Santiago-Gonzales, D. Seweryniak, H. Sims, K. Smith, W. P. Tan, P. Thompson, C. Thornsberry, R. L. Varner, D. Walter, G. L. Wilson, S. Zhu, Phys. Rev. C **99**, 035805 (2019).
  13. **Informing direct neutron capture on Tin isotopes near the N=82 shell closure**, B. Manning, G. Arbanas, J. A. Cizewski, R. L. Kozub, S. Ahn, J. M. Allmond, D. W. Bardayan, K. Y. Chae, K.A. Chipps, M. E. Howard, K. L. Jones, J. F. Liang, M. Matos, C. D. Nesaraja, F. M. Nunes, P. D. O'Malley, S. D. Pain, W. A. Peters, S. T. Pittman, A.

- Ratkiewicz, K. T. Schmitt, D. Shapira, M. S. Smith, L. Titus, Phys. Rev. C **99**, 041302(R) (2019).
14. **Constraining spectroscopic factors near the r-process path using combined measurements:  $^{86}\text{Kr}(d,p)^{87}\text{Kr}$** , D. Walter, S. D. Pain, J. A. Cizewski, F. M. Nunes, S. Ahn, D. W. Bardayan, T. Baugher, T. Baumann, D. Bazin, S. Burcher, K. A. Chipps, G. Cerizza, K. L. Jones, R. Kozub, S. J. Lonsdale, B. Manning, F. Montes, P. D. O'Malley, S. Ota, J. Pereira, A. Ratkiewicz, P. Thompson, C. Thornsberry, S. Williams, Phys. Rev. C **99**, 054625 (2019).
  15. **Doppler broadening in  $^{20}\text{Mg}(\beta\gamma)^{19}\text{Ne}$  decay**, B. E. Glassman, D. Perez-Loureiro, C. Wrede, J. Allen, D. W. Bardayan, M. B. Bennett, K. A. Chipps, M. Febraro, M. Friedman, C. Fry, M. R. Hall, O. Hall, S. N. Liddick, P. O'Malley, W. Ong, S. D. Pain, S. B. Schwartz, P. Shidling, H. Sims, P. Thompson, H. Zhang, Phys. Rev. C **99**, 065801 (2019).
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## Presentations Given:

(559 total presentations authored or coauthored, 79 invited talks given)

**Measuring Ne-19 alpha-branching ratios with the JENSA gas-jet target**, D. W. Bardayan *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Nuclear Astrophysics Experiments**, D. W. Bardayan, invited lectures, presented at the Exotic Beam Summer School, Oak Ridge, TN, June 2019.

**Installation of the ORNL Enge Spectrometer at Notre Dame**, invited talk, presented at the workshop on Science With The Super-Enge Split-Pole Spectrograph And Workshop On Transfer Reactions, Tallahassee, FL, March 2019.

**Particle (and  $\gamma$ ) decay of astrophysically-important  $^{19}\text{Ne}$  States**, D. W. Bardayan, invited talk, presented at the 42<sup>nd</sup> Symposium on Nuclear Physics, Cocoyoc, Mexico, January 2019.

**Installation of an Enge Split-Pole Spectrograph at Notre Dame**, D. W. Bardayan *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**Spectroscopic strengths of low-lying levels in  $^{18}\text{Ne}$** , D. W. Bardayan *et al.*, invited talk, presented at the Conference on the Application of Accelerators to Research and Industry, Grapevine, TX, August 2018.

**Transfer of the Oak Ridge Enge Split-Pole Spectrograph to Notre Dame**, D. W. Bardayan *et al.*, presented at the Conference on the Application of Accelerators to Research and Industry, Grapevine, TX, August 2018.

**Probing explosive nucleosynthesis through TwinSol Measurements**, D. W. Bardayan, invited talk, presented at the Conference on the Intersection of Particle and Nuclear Physics, Palm Springs, CA, May 2018.

**Transfer of the Oak Ridge Enge Split-Pole Spectrograph to Notre Dame**, D. W. Bardayan *et al.*, presented at the JINA Frontiers Meeting, South Bend, IN, May 2018.

**Current Research Activities at the Nuclear Science Laboratory**, D. W. Bardayan, invited talk, presented at the 80<sup>th</sup> Anniversary Celebration of the Notre Dame Nuclear Science Laboratory, Notre Dame, IN, April 2018.

**Nuclear Astrophysics Measurements with the NIFFTE Time Project Chamber**, D. W. Bardayan, invited talk, presented at the Workshop on Future Applications of the Fission Time Projection Chamber, Livermore, CA, March 2018.

**The Notre Dame Nuclear Science Laboratory**, D. W. Bardayan, invited plenary talk, presented at the 2017 Low Energy Community Meeting, Argonne, IL, August 2017.

**Measurements of (d,n) reactions of astrophysical interest using SECAR**, D. W. Bardayan, invited talk, presented at the 2017 Low Energy Community Meeting, Argonne, IL, August 2017.

**Recent Upgrades to TwinSol**, D. W. Bardayan et al., presented at the international conference on Advances in Radioisotope Science ARIS2017, Keystone, CO, May 2017.

**Proton transfer reactions on exotic beams to probe nucleosynthesis**, D. W. Bardayan, invited talk, presented at the Institute of Nuclear Theory Workshop – Nuclear Reactions: A symbiosis between experiment, theory, and applications, Seattle, WA, March 2017.

**Determining the  $^{14}\text{O}(\alpha,p)^{17}\text{F}$  astrophysical rate with TwinSol measurements**, presented at the Conference on the Application of Accelerators to Research and Industry (CAARI), Ft. Worth, TX, November 2016.

**Study of the  $^{17}\text{F}(p,\alpha)^{14}\text{O}$  reaction at TwinSol**, D. W. Bardayan et al., presented at the Fall Meeting of the Division of Nuclear Physics, Vancouver, CA, October 2016.

**Astrophysical studies with radioactive  $^{17}\text{F}$  beams at TwinSol**, D. W. Bardayan, invited talk, presented at an NSCL Nuclear Science Seminar, Michigan State University, East Lansing, MI, September 2016.

**Relocation of the Holifield Enge Spectrograph to the Notre Dame Nuclear Science Lab**, D. W. Bardayan, invited talk, presented at the 2016 Low Energy Community Meeting, Notre Dame, IN, August 2016.

**The first science results with the JENSA gas-jet target**, D. W. Bardayan, invited talk, presented at the 2016 Low Energy Community Meeting, Notre Dame, IN, August 2016.

**Measuring (d,n) reactions of astrophysical interest using the JENSA gas-jet target**, D. W. Bardayan, invited talk, presented at the Annual Retreat of the SSAA for Radioactive Ion Beam Studies in Stewardship Science, Knoxville, TN, June 2016.

**Recent study of the  $^{14}\text{O}(\alpha,p)^{17}\text{F}$  reaction using TwinSol radioactive beams**, D. W. Bardayan, presented at the JINA-CEE Satellite Workshop on Experiments for X-Ray Burst Nucleosynthesis, Athens, OH, May 2016.

**Nuclear astrophysics at the Notre Dame Nuclear Science Laboratory**, D. W. Bardayan, invited talk, presented at a University of Kentucky Nuclear Physics Seminar, Lexington, KY, March 2016.

**Nuclear astrophysics measurements with the TwinSol Radioactive Beam Facility**, D. W. Bardayan, invited talk, presented at the 39<sup>th</sup> Symposium on Nuclear Physics, Cocoyoc, Mexico, January 2016.

**The center of excellence for radioactive ion beam studies for stewardship science**, D. W. Bardayan, invited talk, presented at the LANSCE User Group Meeting – LANSCE Futures, Santa Fe, NM, November 2015.

**Astrophysical neutron capture rates from HRIBF transfer reaction measurements on radioactive nuclei**, D. W. Bardayan, invited talk, presented at the workshop on Galactic evolution, Nuclear Astrophysics and Stellar Hydrodynamics (GNASH), Victoria, CA, May 2015.

**The new JENSA gas-jet target for astrophysical radioactive beam experiments**, D. W. Bardayan *et al.*, presented at the International Conference on Electromagnetic Isotope Separators and Related Topics (EMIS 2015), Grand Rapids, MI, May 2015.

**Nova nucleosynthesis and production of the radioisotope  $^{18}\text{F}$** , D. W. Bardayan, invited talk, presented at a Argonne Physics Division Seminar, Argonne, IL, March 2015.

**Explosive hydrogen burning nucleosynthesis and future experiments**, D. W. Bardayan, invited plenary talk, presented at the 38<sup>th</sup> Symposium on Nuclear Physics, Cocoyoc, Mexico, January 2015.

**Nuclear physics challenges and opportunities for nova nucleosynthesis**, D. W. Bardayan, invited talk, presented at the 2014 Meeting of the Southeastern Section of the American Physical Society, Columbia, SC, November 2014.

**$^{19}\text{Ne}$  states studied with the new JENSA gas jet target**, D. W. Bardayan *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**Overview of Nuclear Astrophysics**, D. W. Bardayan, invited plenary talk, presented at the International Conference on the Application of Accelerators to Research and Industry, San Antonio, TX, May 2014.

**The JENSA gas-jet target for astrophysical measurements at ReA3 and FRIB**, D. W. Bardayan *et al.*, presented at the International Conference on the Application of Accelerators to Research and Industry, San Antonio, TX, May 2014.

**Direct reaction measurements of astrophysical interest using the JENSA gas-jet target**, D. W. Bardayan, invited talk, presented the Workshop on Nuclear Symmetries and Stewardship Science, Berkeley, CA May 2014.

**Measurements of interest to  $^{18}\text{F}$  nucleosynthesis with the JENSA gas-jet target**, D. W. Bardayan *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**ORNL Nuclear Structure and Astrophysics**, D. W. Bardayan, invited talk, presented at the Comparative Review of Department of Energy Low Energy Nuclear Physics programs, Gaithersburg, MD, May 2013.

**Gamma-ray vision of novae and exotic nuclei**, D. W. Bardayan, invited talk, presented at a University of Notre Dame Departmental Colloquium, South Bend, IN, April 2013.

**Proton-transfer studies of astrophysically-interesting nuclei using the JENSA gas-jet target**, D. W. Bardayan *et al.*, presented at the Fall Meeting of the American Physical Society, Newport Beach, CA, October 2012.

**Nuclear astrophysics measurements at FRIB**, D. W. Bardayan, invited talk, presented at the Nuclear Astrophysics Town Meeting 2012, Detroit, MI, October 2012.

**Astrophysics measurements with gas targets and radioactive beams at HRIBF**, D. W. Bardayan, invited talk, presented at a University of Notre Dame Nuclear Seminar, Notre Dame, IN, September 2012.

**Studies of r-process nuclei using transfer reactions at the HRIBF**, D. W. Bardayan, invited talk, presented at the SKKU International Symposium on Astrophysics and Cosmology: from Particle to Universe, Sungkyunkwan University, Suwon, Korea, August 2012.

**Astrophysics measurements with gas targets and radioactive beams at HRIBF**, D. W. Bardayan, invited talk, presented at a Chung-Ang University Physics Colloquium, Seoul, Korea, August 2012.

**The new SuperORRUBA Array for Transfer Reaction Studies of Exotic Nuclei**, D. W. Bardayan *et al.*, presented at the XII International Symposium on Nuclei in the Cosmos, Cairns, Australia, August 2012.

**Plans for the JENSA gas-jet target at the NSCL**, D. W. Bardayan, invited talk, presented at the Center of Excellence for Radioactive Ion Beam Science retreat, Knoxville, TN, June 2012.

**HRIBF studies of r-process nuclei and first results with the new SuperORRUBA Array**, D. W. Bardayan *et al.*, presented at the 2012 Conference on the Intersections of Particle and Nuclear Physics International Conference, St. Petersburg, FL, June 2012.

**New instruments and recent results in the study of transfer reactions at the HRIBF**, D. W. Bardayan, invited talk, presented at a Texas A&M Cyclotron Institute Colloquium, College Station, TX, May 2012.

**Astrophysics measurements with gas targets and radioactive beams at HRIBF**, D. W. Bardayan, invited talk, presented at an Ohio University Nuclear Astrophysics Seminar, Athens, OH, May 2012.

**Recreating astrophysical explosions with combustible gases in the laboratory**, D. W. Bardayan, invited talk, presented at a Colorado School of Mines Physics Department Colloquium, Golden, CO, April 2012.



**Astrophysics measurements with gas targets and radioactive beams at HRIBF**, D. W. Bardayan, invited talk, presented at a NSCL Nuclear Physics Seminar, East Lansing, MI, November 2011.

**Nuclear astrophysics at the Holifield Radioactive Ion Beam Facility**, D. W. Bardayan, invited talk, presented at a University of Tennessee Graduate Research Participation Seminar, Knoxville, TN, September 2011.

**Nuclear astrophysics plans at HRIBF and the JENSA gas target project**, D. W. Bardayan, invited talk, presented at the Joint ATLAS-HRIBF-NSCL-FRIB Users Meeting, East Lansing, MI, August 2011.

**Transfer reactions on unstable nuclei for nuclear science applications**, D. W. Bardayan, invited talk, presented at the Applications of Nuclear Science and Technology Exchange Meeting, Rockford, MD, August 2011.

**JENSA: Jet experiments in nuclear structure and astrophysics**, D. W. Bardayan et al., invited talk, presented at the Center of Excellence for Radioactive Ion Beam Science retreat, Oak Ridge, TN, June 2011.

**Experiments in the vicinity of  $^{132}\text{Sn}$** , D. W. Bardayan, invited talk, presented at the ECT\* workshop on Transfer and Knockout Reactions, Trento, Italy, May 2011.

**Development and first tests of the SuperORRUBA Silicon Detector Array**, D. W. Bardayan et al., presented at the Spring Meeting of the American Physical Society, Anaheim, CA, April 2011.

**Gas-jet plans at the HRIBF**, D. W. Bardayan, invited talk, presented at a JENSA Collaboration Meeting, Golden, CO, March 2011.

**The superORRUBA detector array**, D. W. Bardayan et al., invited talk, presented at the Workshop on Advances in Nuclear Radiation Detectors and Technologies, New Brunswick, NJ, January 2011.

**Recent experiments related to explosive nuclear burning**, D. W. Bardayan, invited talk, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Studies of  $^{27}\text{Si}$  and the  $^{26}\text{Al}(p,\gamma)^{27}\text{Si}$  reaction rate**, D. W. Bardayan et al., presented at Nuclear Structure 2010, Berkeley, CA, August 2010.

**Direct Measurements of  $(p, \gamma)$  cross sections at astrophysical energies using radioactive beams and the Daresbury Recoil Separator**, D. W. Bardayan et al., presented at the 11<sup>th</sup> Symposium on Nuclei in the Cosmos, Heidelberg, Germany, July 2010.

**Studies of the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  reaction at ORNL**, D. W. Bardayan, invited talk, presented at a nuclear physics seminar at the University of Huelva, Huelva, Spain, June 2010.

**Direct measurements of proton capture reactions on radioactive beams at the HRIBF**, D. W. Bardayan, invited talk, presented at the 4<sup>th</sup> LACM-EFES-JUSTIPEN Workshop, Oak Ridge, TN, March 2010.

**Studies of the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  reaction at ORNL**, D. W. Bardayan, invited talk, presented at the IoP Workshop on Nuclear Astrophysics in Novae and X-ray Bursts, York, U.K., February 2010.

**Transfer reaction studies of r-process nuclei at ORNL**, D. W. Bardayan, invited talk, presented at a York University Physics Seminar, York, U.K., February 2010.

**Challenges and recent results on the structure of r-process nuclei**, D. W. Bardayan, invited talk, presented at the 76<sup>th</sup> Annual Meeting of the Southeastern Section of the APS, Atlanta, GA, November 2009.

**Development of a new silicon detector barrel array**, D. W. Bardayan, invited talk, presented at the HRIBF Users Meeting: Upgrade for the FRIB ERA, Oak Ridge, TN, November 2009.

**Astrophysical measurements with radioactive  $^{17}\text{F}$  beams at HRIBF**, D. W. Bardayan *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**The  $^{28}\text{Si}(p,t)^{26}\text{Si}$  reaction and implications for  $^{25}\text{Al}(p,\alpha)^{26}\text{Si}$** , K. A. Chipps *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**Nuclear Astrophysics Measurements with Exotic Beams Part 1**, D. W. Bardayan, invited talk, presented at the Exotic Beam Summer School, Berkeley, CA, August 2009.

**Nuclear Astrophysics Measurements with Exotic Beams Part 2**, D. W. Bardayan, invited talk, presented at the Exotic Beam Summer School, Berkeley, CA, August 2009.

**Studies of  $^{26}\text{Al}+p$  reactions at HRIBF**, D. W. Bardayan, invited talk, presented at the 2009 Meeting of the HRIBF Program Advisory Committee, Oak Ridge, TN July 2009.

**The study of (d,p) reactions near  $^{132}\text{Sn}$  at HRIBF**, D. W. Bardayan, invited talk, presented at the Gordon Research Conference on Nuclear Chemistry, New London, NH, June 2009.

**Astrophysical studies of (p, $\gamma$ ) reactions on radioactive beams at ORNL**, D. W. Bardayan, invited talk, presented at a Nuclear Astrophysics Seminar, Rutgers University, New Brunswick, NJ, June 2009.

**The SIDAR Silicon Detector Array: A decade of discovery**, D. W. Bardayan *et al.*, presented at the 8<sup>th</sup> International Conference on Radioactive Nuclear Beams (RNB8), Grand Rapids, MI, May 2009.

**Measurements with rare isotope beams for nuclear astrophysics**, D. W. Bardayan, invited talk, presented at the 237<sup>th</sup> American Chemical Society National Meeting, Salt Lake City, UT, March 2009.

**Neutron transfer measurements around  $^{132}\text{Sn}$** , S. D. Pain *et al.*, invited talk, presented at the 237<sup>th</sup> American Chemical Society National Meeting, Salt Lake City, UT, March 2009.

**Direct measurements of proton-capture cross sections using radioactive beams and the Daresbury Recoil Separator**, D. W. Bardayan, invited talk, presented at a University of Tennessee Nuclear Physics Seminar, Knoxville, TN, November 2008.

**Studying nova explosions with precision spectroscopy measurements and radioactive beams**, D. W. Bardayan, presented at the 20<sup>th</sup> Annual Kavli Frontiers of Science Symposium, Irvine, CA, November 2008.

**Direct measurements of (p, $\gamma$ ) cross sections at astrophysical energies using radioactive beams and the Daresbury Recoil Separator**, D. W. Bardayan *et al.*, presented at the Zakopane Conference on Nuclear Physics, Zakopane, Poland, September 2008.

**Direct measurements of (p, $\gamma$ ) cross sections at astrophysical energies using radioactive beams and the Daresbury Recoil Separator**, D. W. Bardayan *et al.*, presented at the 5<sup>th</sup> International Conference on Exotic Nuclei and Atomic Masses, Ryn, Poland, September 2008.

**Elemental discrimination of low-energy ions using risetime analysis of silicon-strip detector signals**, D. W. Bardayan *et al.*, presented at the 20<sup>th</sup> International Conference on the Application of Accelerators in Research & Industry, Fort Worth, TX, August 2008.

**New Measurements of spectroscopic factors for low-lying  $^{16}\text{N}$  levels**, D. W. Bardayan *et al.*, invited talk, presented at the 20<sup>th</sup> International Conference on the Application of Accelerators in Research & Industry, Fort Worth, TX, August 2008.

**Neutron-spectroscopic factors for low-lying  $^{16}\text{N}$  levels and the  $^{15}\text{N}(n,\gamma)^{16}\text{N}$  reaction rate**, D. W. Bardayan *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**Studies of (d,p) reactions on radioactive beams at HRIBF**, D. W. Bardayan, invited talk, presented as an Argonne National Laboratory Physics Division Seminar, Argonne, IL, March 2008.

**Spectroscopic factors for low-lying  $^{16}\text{N}$  levels**, D. W. Bardayan *et al.*, invited talk, presented at Fourth International Conference on Fission and Properties of Neutron-rich Nuclei, Sanibel Island, FL, November 2007.

**$^{30,31}\text{S}$  level structure measured via (p,t) and (p,d) reactions on  $^{32}\text{S}$** , D. W. Bardayan, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**Radioactive ion beams and gamma-ray vision of novae**, D. W. Bardayan, invited talk, presented at a University of Tennessee Physics Department Colloquium, Knoxville, TN, September 2007.

**Studies of reactions affecting  $^{18}\text{F}$  production in novae**, D. W. Bardayan for the RIBENS Collaboration, presented at the conference on Nuclear Astrophysics Beyond the First 50 Years, Pasadena, CA, July 2007.

**$^{26}\text{Si}$  and  $^{30}\text{S}$  studied via (p,t) reactions using the Silicon Detector Array (SIDAR)**, D. W. Bardayan et al., presented at the April Meeting of the American Physical Society, Jacksonville, FL, April 2007.

**The  $^{25}\text{Al}(p,\gamma)^{26}\text{Si}$  Reaction Rate in Novae**, D. W. Bardayan *et al.*, presented at the HRIBF Workshop on Nuclear Measurements for Astrophysics, Oak Ridge, TN, October 2006.

**The  $^{25}\text{Al}(p,\gamma)^{26}\text{Si}$  Reaction Rate in Novae**, D. W. Bardayan *et al.*, presented at Nuclear Structure 2006, Oak Ridge, TN, July 2006.

**Recent Astrophysical Results using Exotic Beams at ORNL**, D. W. Bardayan, invited talk, presented at the 2006 Canadian Association of Physicists Congress, St. Catherines, Ontario, June 2006.

**The  $^{25}\text{Al}(p,\gamma)^{26}\text{Si}$  Reaction Rate in Novae**, D. W. Bardayan *et al.*, presented at Nuclei in the Cosmos 9, Geneva, Switzerland, June 2006.

**Measurements with  $^7\text{Be}$  Beams at the HRIBF**, D. W. Bardayan *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Recent Astrophysical Studies with Exotic Beams at ORNL**, D. W. Bardayan, invited talk, presented at Nuclear Physics in Astrophysics – II, Debrecen, Hungary, May 2005.

**$^{19}\text{F}$  alpha widths from the  $^{15}\text{N}(\alpha,\alpha)^{15}\text{N}$  reaction and the  $^{18}\text{F}+p$  reaction rates**, D. W. Bardayan *et al.*, presented at the April Meeting of the American Physical Society, Tampa, FL, April 2005.

**New  $^{19}\text{Ne}$  Resonance Observed with a Thick Target  $^{18}\text{F}(p,p)^{18}\text{F}$  Measurement**, D. W. Bardayan *et al.*, presented at the Division of Nuclear Physics (DNP) meeting, Chicago, IL, October 2004.

**New  $^{19}\text{Ne}$  Resonance Observed Using an Exotic  $^{18}\text{F}$  Beam**, D. W. Bardayan *et al.*, presented at the Conference on Exotic Nuclei and Masses (ENAM04), Pine Mountain, GA, September 2004.

**New  $^{19}\text{Ne}$  Level Observed with a Thick Target  $^{18}\text{F}(p,p)^{18}\text{F}$  Measurement**, D. W. Bardayan *et al.*, presented at Nuclei in the Cosmos, Vancouver, B.C., Canada, July 2004.

**Nova Nucleosynthesis of Gamma-Ray Emitters and Radioactive Beam Measurements**, D. W. Bardayan, invited talk, presented at the April Meeting of the American Physical Society, Denver, CO, May 2004.

**(d,p) Reactions on Exotic Beams**, D. W. Bardayan, invited talk, presented at the EMMA workshop: An Electromagnetic Mass Analyzer for ISAC II, TRIUMF, Vancouver, B. C., Canada, December 2003.

**Studies of the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  Reaction Rate with a  $^{18}\text{F}$  Beam at the HRIBF**, D. W. Bardayan *et al.*, presented at the 6<sup>th</sup> International Conference on Radioactive Nuclear Beams, Argonne, IL, September 2003.

**Studies in Nuclear Astrophysics Using Radioactive Beams at the HRIBF**, D. W. Bardayan, invited talk, presented at the V Latinamerican Symposium on Nuclear Physics, Santos, Brazil, September 2003.

**Explosive Nucleosynthesis Measurements with Radioactive Fluorine Beams at the ORNL HRIBF**, D. W. Bardayan, invited talk, presented at the Conference on Direct Reactions with Exotic Beams (DREB03), Guildford, United Kingdom, July 2003.

**The single-particle structure of neutron-rich nuclei of astrophysical interest at the ORNL HRIBF**, D. W. Bardayan *et al.*, invited talk, presented at the Third International Conference on Fission and Properties of Neutron-Rich Nuclei, Sanibel Island, FL, November 2002.

**Nuclear Astrophysics Studies using the Daresbury Recoil Separator at the ORNL Holifield Radioactive Ion Beam Facility**, D. W. Bardayan, invited talk, presented at the Big DRAGON workshop: A Recoil Separator for ISAC II at TRIUMF, Vancouver, Canada, July 2002.

**Study of  $^{26}\text{Si}$  States Important for  $^{26}\text{Al}$  Nucleosynthesis in Novae**, D. W. Bardayan *et al.*, presented at the 7<sup>th</sup> International Symposium on Nuclei in the Cosmos, Fuji-Yoshida, Japan, July 2002.

**Measurement of the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  Cross Section at Nova Energies**, D. W. Bardayan *et al.*, presented at the 7<sup>th</sup> International Symposium on Nuclei in the Cosmos, Fuji-Yoshida, Japan, July 2002.

**Direct Study of the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  Reaction at Energies Relevant for  $^{18}\text{F}$  Nucleosynthesis in Novae**, D. W. Bardayan *et al.*, presented at the International Conference on Classical Nova Explosions, Sitges, Spain, May 2002.

**Measurement of the strength of the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  resonance at  $E_{c.m.}=330$  keV**, D. W. Bardayan *et al.*, contributed talk, presented at the APS April Meeting, Albuquerque, N.M., April 2002.

**Recent Results in Nuclear Astrophysics Using Radioactive Fluorine Beams at the HRIBF**, D. W. Bardayan for the RIBENS collaboration, presented at the International Nuclear Physics Conference (INPC 2001), Berkeley, CA, July 2001.

**Explosive  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$  Burning through the  $3^+$  State in  $^{18}\text{Ne}$** , D. W. Bardayan, invited talk, presented at the APS April Meeting, Washington D.C., April 2001.

**Determining Radioisotope Production in Novae from Laboratory Measurements made at the ORNL HRIBF**, D. W. Bardayan, invited talk, presented at an Astrophysics Seminar, University of Tennessee, Knoxville, TN, April 2001.

**Determination of the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  stellar reaction rate**, D. W. Bardayan *et al.*, presented at the ISOL01 conference, Oak Ridge, TN, March 2001.

**SIDAR: A silicon detector array for astrophysics studies with radioactive beams**, D. W. Bardayan *et al.*, presented at the ISOL01 conference, Oak Ridge, TN, March 2001.

**Determining Radioisotope Production in Novae from Laboratory Measurements made at the ORNL HRIBF**, D. W. Bardayan, invited talk, presented at a TRIUMF seminar, TRIUMF, Vancouver, BC, February 2001.

**Determining Radioisotope Production in Novae from Laboratory Measurements made at the ORNL HRIBF**, D. W. Bardayan, invited talk, presented at a Physics Colloquium, Ohio University, Athens, OH, January 2001.

**Determining Radioisotope Production in Novae from Laboratory Measurements**, D. W. Bardayan, invited talk, presented at a RIB section seminar, Oak Ridge National Laboratory, Oak Ridge, TN, November 2000.

**Measurements of the  $^1\text{H}(^{18}\text{F},p)^{18}\text{F}$  and  $^1\text{H}(^{18}\text{F},\alpha)^{15}\text{O}$  Excitation Functions at the HRIBF**, D. W. Bardayan *et al.*, contributed talk, presented at the DNP meeting, Williamsburg, VA, October 2000.

**Determination of the Properties of the 7.08 MeV Resonance in  $^{19}\text{Ne}$  by Measurement of the  $^1\text{H}(^{18}\text{F},p)^{18}\text{F}$  and  $^1\text{H}(^{18}\text{F},\alpha)^{15}\text{O}$  Cross Sections with a Radioactive  $^{18}\text{F}$  Beam**, D.W. Bardayan *et al.*, presented at Nuclei in the Cosmos 2000, Aarhus, Denmark, June 2000.

**Nuclear Astrophysics Measurements with Radioactive Ion Beams at the HRIBF**, D.W. Bardayan, invited talk, presented at a TUNL Seminar, Triangle Universities Nuclear Laboratory, Durham, NC, February 2000.

**$^{17}\text{F}+p$  Elastic Scattering**, D.W. Bardayan, invited talk, presented at the Second Biennial Workshop on "Nuclear Structure Physics Near the Coulomb Barrier: Into the 21<sup>st</sup> Century", Yale University, New Haven, CT, June 1999.

**$^{17}\text{F}(\text{p},\gamma)^{18}\text{Ne}$  Burning in Stellar Explosions**, D.W. Bardayan, invited talk, presented at a Physics Seminar, Tennessee Technological University, Cookeville, TN, April 1999.

**Study of Astrophysically Important States in  $^{18}\text{Ne}$  Via  $^{17}\text{F}(\text{p},\text{p})^{17}\text{F}$  at the HRIBF**, D.W. Bardayan, invited talk, presented at a Physics Division Lunch Seminar, Oak Ridge National Laboratory, Oak Ridge, TN, April 1999.

**Measurement of the  $^1\text{H}(\text{p},\text{p})^{17}\text{F}$  Excitation Function at the HRIBF**, D.W. Bardayan *et al.*, contributed talk, presented at the APS Centennial Meeting, Atlanta, GA, March 1999.

**Nuclear Astrophysics with Radioactive Ion Beams at Oak Ridge National Laboratory**, D.W. Bardayan, invited talk, presented at WNSL, Yale University, New Haven, CT, November 1998.

**Nuclear Astrophysics with RIBS at ORNL**, D.W. Bardayan, invited talk, presented at the 15<sup>th</sup> Annual Conference on Application of Accelerators in Research and Industry, Denton, TX, November 1998.

**Initial Reaction Study Results with the Daresbury Recoil Separator at ORNL**, D.W. Bardayan *et al.*, contributed talk, presented at the APS April Meeting, Columbus, OH, April 1998.

**First RIB Experiments, Detector Systems, and Rate Evaluations**, D.W. Bardayan, presented at a Physics Division Information Meeting, Oak Ridge National Laboratory, April 1997.

**Radioisotope Yields from 1.85-GeV Protons on Mo and 1.85- and 5.0-GeV Protons on Te**, D.W. Bardayan *et al.*, presented at the 24<sup>th</sup> International Cosmic Ray Conference, Rome, Italy, September 1995.

**A Monte Carlo Simulation of the Electron Capture Decay of  $^{37}\text{Ar}$  with an Admixture of Massive Neutrinos**, D.W. Bardayan *et al.*, contributed talk, presented at the SPS meeting at SESAPS, Oak Ridge, TN, November 1992.

## Presentations Co-authored:

**Studying the energy levels of  $^{39}\text{Ca}$  for the  $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$  reaction rate**, M. Hall *et al.*, presented at the Annual Meeting of the American Physical Society, Washington D.C., April 2020.

**Proton decay of  $^{21}\text{Na}$  for  $^{20}\text{Ne}$  energy levels**, M. J. Kim, K. Y. Chae, S. Ahn, D. W. Bardayan, S. M. Cha, K. A. Chipps, J. A. Cizewski, M. E. Howard, R. L. Kozub, K. Kwak, B. Manning, M. Matos, P. D. O'Malley, S. D. Pain, W. A. Peters, S. T. Pittman, A. Ratkiewicz, M. S. Smith, S. Strauss, presented at International Conference on Accelerators and Beam Utilizations, Daejeon, Korea, November 2019.

**Probing single-particle  $^{11}\text{C}$  levels produced via the  $^{10}\text{C}(d,p)$  reaction**, M. Baines *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Investigation of the QRPA method for the neutrinoless double beta decay candidate  $^{136}\text{Xe}$  using two-nucleon transfer**, R. Toomey *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Studying the energy levels of  $^{39}\text{Ca}$  for the  $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$  reaction rate**, M. Hall *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Precise half-life measurement of the superallowed mixed-mirror decaying  $^{15}\text{O}$** , D. P. Burdette *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**$^{135}\text{Xe}$  structure deduced via  $^{134}\text{Xe}(d,p\gamma)$  with GODDESS**, G. Seymour *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Level structure of  $^{96}\text{Mo}$  from the  $(d,p\gamma)$  measurement with  $^{95}\text{Mo}$  beams and GODDESS**, H. Garland *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Measuring the  $^{134}\text{Te}(d,p\gamma)^{135}\text{Te}$  reaction with GODDESS to deduce the single-particle structure of  $^{135}\text{Te}$  and inform neutron capture**, C. C. Ummel *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Constraining the  $^{30}\text{P}(p,\gamma)^{31}\text{S}$  reaction using  $^{30}\text{P}(d,p\gamma)^{31}\text{P}$  with GODDESS**, R. Ghimire *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Particle decay of the 6.15 MeV level in  $^{18}\text{Ne}$** , K. A. Chipps *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Precision half-life measurement of  $^{33}\text{Cl}$** , P. O'Malley *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.



**Measurement of the  $B(E2;2^+ \rightarrow 1^+)$  of  ${}^8\text{Li}$  and comparisons to ab initio calculations**, S. L. Henderson *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Precision half-life measurement of  ${}^{29}\text{P}$** , J. Long *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**Determining the astrophysical  ${}^{20}\text{Ne}(\alpha, p){}^{23}\text{Na}$  reaction rate using the Notre Dame 5U accelerator**, A. Davis *et al.*, presented at the annual Division of Nuclear Physics Meeting, Crystal City, VA, October 2019.

**First measurement of low-energy resonances in the  ${}^{24}\text{Mg}(\alpha, p\gamma){}^{27}\text{Al}$  reaction**, T. Ahn *et al.*, presented at the April Meeting of the American Physical Society, Denver, CO, April 2019.

**GODDESS and the ORRUBA arrays for ReA and Fast Beams at FRIB**, S. Pain *et al.*, presented at the April Meeting of the American Physical Society, Denver, CO, April 2019.

**Using GODDESS to constrain r-process neutron capture rates with (d, p $\gamma$ ) reactions**, C. Ummel *et al.*, presented at the April Meeting of the American Physical Society, Denver, CO, April 2019.

**s-wave scattering lengths for the  ${}^7\text{Be}+p$  system from an R-matrix analysis**, S. N. Paneru *et al.*, presented at the DAE International Symposium on Nuclear Physics, Mumbai, December 2018.

**Commissioning of the Solenoid Spectrometer for Nuclear AstroPhysics at Notre Dame**, J. Allen *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**1st Measurement of the  $B(E2)$  of the  $1/2^- \rightarrow 3/2^-$  transition in Be-7**, S. Henderson *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**Structure Studies with Low-energy Radioactive Beams from TwinSol: Resonant scattering and ( $\alpha, n$ ) reactions using Active Targets**, T. Ahn *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**Development of an Active Target High Efficiency Detector for Nuclear Astrophysics (ATHENA) at Notre Dame**, D. Blankstein *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**New Evidence for Near-Threshold  $3/2^+$  States in  ${}^{19}\text{Ne}$  and Constraints on the  ${}^{18}\text{F}(p, \alpha){}^{15}\text{O}$  Reaction Rate**, M. Hall *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**Spectroscopic strengths of low-lying levels in  $^{18}\text{Ne}$** , P. D. O'Malley *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**Proton Transfer Reactions Studied Using the Versatile Array of Neutron Detectors at Low Energy (VANDLE)**, C. Thornsberry *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**Benchmarking the (d,p) reaction for obtaining (p, $\gamma$ ) rates for N=Z nuclei**, S. D. Pain *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2018.

**Transfer of the Oak Ridge Enge Split-Pole Spectrograph to Notre Dame**, P. D. O'Malley *et al.*, presented at the Symposium on Radiation Measurements and Applications, Ann Arbor, MI, June 2018.

**Commissioning run of the Solenoid Spectrometer for Nuclear Astrophysics (SSNAP) at Notre Dame**, J. Allen *et al.*, presented at the Symposium on Radiation Measurements and Applications, Ann Arbor, MI, June 2018

**$\beta$ -delayed  $\gamma$  decay of  $^{20}\text{Mg}$  and the  $^{19}\text{Ne}(p,\gamma)^{20}\text{Na}$  breakout reaction in Type I x-ray bursts**, B. Glassman *et al.*, presented at the JINA-CEE Frontiers in Nuclear Astrophysics Symposium, South Bend, IN, May 2018.

**Spectroscopic strengths of low-lying levels in  $^{18}\text{Ne}$** , P. O'Malley *et al.*, presented at the JINA-CEE Frontiers in Nuclear Astrophysics Symposium, South Bend, IN, May 2018.

**New method of measuring low-energy ( $\alpha,p$ ) reactions in inverse kinematics**, K. Chae *et al.*, presented at the JINA-CEE Frontiers in Nuclear Astrophysics Symposium, South Bend, IN, May 2018.

**Studying the energy levels in  $^{19}\text{Ne}$  above the proton threshold**, M. Hall *et al.*, presented at the JINA-CEE Frontiers in Nuclear Astrophysics Symposium, South Bend, IN, May 2018.

**Measuring the B(E2) of the  $1/2^- \rightarrow 3/2^-$  transition in  $^7\text{Be}$** , S. Henderson *et al.*, presented at the JINA-CEE Frontiers in Nuclear Astrophysics Symposium, South Bend, IN, May 2018.

**s-wave scattering lengths for  $^7\text{Be}+p$  system from R-matrix analysis**, S. Paneru *et al.*, presented at the April Meeting of the American Physical Society, Columbus, OH, April 2018.

**Spectroscopic factors of low-lying levels in  $^{18}\text{Ne}$** , P. D. O'Malley *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Precision lifetime measurement of  $^{15}\text{O}$** , D. Burdette *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Precision half-life measurement of  $^{25}\text{Al}$** , J. Long et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Vertex reconstruction for the  $^{10}\text{C}(\alpha,\alpha)^{10}\text{C}$  scattering reaction using the Prototype Active-Target Time-Project Chamber**, T. Ahn et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Heavy-ion induced transfer reactions on  $^{130}\text{Sn}$** , S. Burcher et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Updates to the development to the Solenoid Spectrometer for Nuclear Astrophysics (SSNAP) at Notre Dame**, J. Allen et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Exploring single-hole state evolution near the N=50 shell closure**, P. Tai et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Commissioning of a Faraday cup for the Solenoid Spectrometer for Nuclear Astrophysics (SSNAP)**, E. Garcia et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Gamma ray spectroscopy of  $^{19}\text{Ne}$  near the  $^{18}\text{F}+p$  threshold**, M. Hall et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Reaction measurements with the Jet Experiments in Nuclear Structure and Astrophysics (JENSA) gas jet target**, K. A. Chipps et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Elastic and inelastic scattering of  $^{134}\text{Xe}$  beams on  $\text{CD}_2$  targets measured with GODDESS**, H. Sims et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Measurement of proton-induced transfer reactions with JENSA**, S. Chatterjee et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Design and calibration of GODDESS, a particle- $\gamma$  spectrometer**, H. Garland et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Developing the (d,p $\gamma$ ) reaction as a surrogate for (n, $\gamma$ ) in inverse kinematics**, A. Lepailleur et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Beta-delayed neutron spectroscopy of  $^{72}\text{Co}$  with VANDLE**, A. Keeler et al., presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Studying  $^{10}\text{Be}$  and  $^{11}\text{Be}$  halo states through the (p,d) single-neutron transfer reaction**, K. Kuhn *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Pittsburgh, PA, October 2017.

**Transfer reactions for constraining astrophysical nucleosynthesis**, S. D. Pain *et al.*, presented at the Conference on Nuclear Physics in Astrophysics VIII, Catania, Italy, June 2017.

**X-ray burst studies with the JENSA gas jet target**, K. Schmidt *et al.*, presented at the Conference on Nuclear Physics in Astrophysics VIII, Catania, Italy, June 2017.

**Informing neutron capture on tin isotopes in r-process freeze out**, J. Cizewski *et al.*, presented at the international conference on Advances in Radioisotope Science ARIS2017, Keystone, CO, May 2017.

**Precision measurements of mirror transitions at the University of Notre Dame**, M Brodeur *et al.*, presented at the international conference on Advances in Radioisotope Science ARIS2017, Keystone, CO, May 2017.

**Searching for cluster states in isospining mirror nuclei C-14 and O-14 using radioactive beams at TwinSol**, T. Ahn *et al.*, presented at the international conference on Advances in Radioisotope Science ARIS2017, Keystone, CO, May 2017.

**Measurements of gamma rays from Be-7 and Li-7 inelastic scattering**, S. Henderson *et al.*, presented at the international conference on Advances in Radioisotope Science ARIS2017, Keystone, CO, May 2017.

**Precision half-life measurements of  $^{17}\text{F}$  and  $^{25}\text{Al}$  at the University of Notre Dame**, J. Long *et al.*, presented at the international conference on Advances in Radioisotope Science ARIS2017, Keystone, CO, May 2017.

**Spectroscopic strengths of low-lying levels in  $^{18}\text{Ne}$** , P. O'Malley *et al.*, presented at the international conference on Advances in Radioisotope Science ARIS2017, Keystone, CO, May 2017.

**Precision experiments to test the Standard Model at the University of Notre Dame**, M. Brodeur *et al.*, presented at the April Meeting of the American Physics Society, Washington D. C., January 2017.

**Direct reaction measurements using GODDESS**, S. D. Pain *et al.*, presented at the Conference on the Application of Accelerators to Research and Industry (CAARI), Ft. Worth, TX, November 2016.

**Direct neutron capture on neutron-rich tin isotopes**, B. Manning *et al.*, presented at the Conference on Fission and Properties of Neutron-Rich Nuclei, Sanibel, FL, November 2016.

**Measuring the nuclear levels in  $^{19}\text{Ne}$  using GODDESS**, M. Hall *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Spectroscopic strengths of low-lying levels in  $^{18}\text{Ne}$** , P. O'Malley *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**A new  $^{55}\text{Ni}(p,\gamma)$  rate and its implications on the rp-process**, W. Ong *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Studying  $^{10}\text{Be}$  and  $^{11}\text{Be}$  halo states through the (p,d) single-neutron transfer reaction**, K. Kuhn *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Measurements of  $\gamma$  rays from  $^7\text{Be}$  inelastic scattering**, S. L. Henderson *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Study of the structure of  $^{14}\text{O}$  using resonant scattering**, T. Ahn *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Developing the (d,p $\gamma$ ) reaction as a surrogate for (n, $\gamma$ ) in inverse kinematics**, A. Lepailleur *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Measurement of  $^{34}\text{Ar}(\alpha,p)^{37}\text{K}$  using the JENSA gas jet target**, J. Browne *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Construction of the Solenoid Spectrometer for Nuclear Astrophysics (SSNAP) at Notre Dame**, J. Allen *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Gamma-ray spectroscopy of  $^{131}\text{Sn}$  via the ( $^9\text{Be},^8\text{Be} \gamma$ ) reactions**, S. Burcher *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**$\beta$ -delayed neutron spectroscopy around N=82 with VANDLE**, M. Madurga Flores *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Precision half-life measurement of  $^{17}\text{F}$** , J. Long *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Commissioning of the JENSA gas jet target at NSCL**, K. Schmidt *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**The first measurements using GODDESS**, S. D. Pain *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**Testing of a micro-channel plate detector for improved TwinSol measurements**, R. LeBlanc *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, CA, October 2016.

**The  $\beta$  decay of  $^{32}\text{Cl}$** , E. Aboud *et al.*, presented at the APS Division of Nuclear Physics Meeting, Vancouver, Canada, October 2016.

**Neutron transfer reactions with exotic tin beams and neutron capture**, J. A. Cizewski *et al.*, Presented at Direct Reactions with Exotic Beams (DREB2016), Halifax, Canada, July 2016.

**Revalidation of the Isobaric Multiplet Mass Equation for the A=20 quintet**, B. Glassman *et al.*, presented at the APS April Meeting 2016, St. Lake City, UT, April 2016.

**Search for novel  $\alpha$ -cluster structure in light unstable nuclei**, T. Ahn *et al.*, presented at the Annual Fall Meeting of the APS Prairie Section, Notre Dame, IN, November 2015.

**Measurement of the  $^1\text{H}(^{17}\text{F},\alpha)^{14}\text{O}$  cross section at TwinSol**, J. Hu *et al.*, presented at the Annual Fall Meeting of the APS Prairie Section, Notre Dame, IN, November 2015.

**Spectroscopic strengths of low-lying levels in  $^{18}\text{Ne}$** , P. O'Malley *et al.*, presented at the Annual Fall Meeting of the APS Prairie Section, Notre Dame, IN, November 2015.

**Precision half-life measurement of  $^{17}\text{F}$** , C. Nicoloff *et al.*, presented at the Annual Fall Meeting of the APS Prairie Section, Notre Dame, IN, November 2015.

**A measurement of the nuclear levels in  $^{19}\text{Ne}$  using GODDESS**, M. Hall *et al.*, presented at the Annual Fall Meeting of the APS Prairie Section, Notre Dame, IN, November 2015.

**The design of SSNAP a Solenoid Spectrometer for Use with TwinSol**, O. Hall *et al.*, presented at the Annual Fall Meeting of the APS Prairie Section, Notre Dame, IN, November 2015.

**Evaluation of Quantum Monte Carlo Overlaps via  $^6,7\text{Li}(d,p)$  Reactions**, S. T. Marley *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Analyzing the structure of  $^{14}\text{O}$  with TwinSol and AT-TPC**, L. Jensen *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Investigating TwinSol Gas Cell Windows**, K. Cushman *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Development of a plastic phoswich for reaction studies**, C. Thornsberry *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Search for  $\alpha$  cluster structure in  $^{14}\text{O}$** , T. Ahn *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Reducing ambiguities in spectroscopic factors with combined measurements and the  $^{86}\text{Kr}(d,p)$  reaction at 35 MeV/u**, D. Walter *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Measured  $^{19}\text{F}(\alpha,n)$  with VANDLE for Nuclear Safeguards**, W. A. Peters *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Transfer reaction studies with JENSA**, P. Thompson *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Transfer reactions with JENSA: study of the levels in  $^{12}\text{N}$  using  $^{14}\text{N}(p,t)$** , K. A. Chipps *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Constraint of the astrophysical  $^{26}\text{gAl}(p,\gamma)^{27}\text{Si}$  destruction rate at stellar temperatures**, S. D. Pain *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Beta-delayed neutron spectroscopy using VANDLE at CARIBU**, S. Taylor *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Study of beta-delayed neutrons near  $^{78}\text{Ni}$  using VANDLE**, S. Paulauskas *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Studying  $^{10}\text{Be}$  and  $^{11}\text{Be}$  halo states through the  $(p,d)$  single-neutron transfer reaction**, K. Kuhn *et al.*, presented at the Fall Meeting of the DNP, Sante Fe, NM, October 2015.

**Efficacy of Quantum Monte Carlo Overlap Functions in Single Nuclear Transfer Reactions of Light Nuclei**, S. T. Marley *et al.*, presented at the 34th Mazurian Lakes Conference on Physics, Piaski, Poland, September 2015.

**Study of the  $^{19}\text{F}(\alpha,n)$  reaction for homeland security**, S. J. Thompson *et al.*, presented at the 56th Annual Meeting of the Institute of Nuclear Materials Management, Indian Wells, CA, July 2015.

**Low energy scattering cross section ratios of  $^{14}\text{N}(p,p)^{14}\text{N}$** , R. J. deBoer *et al.*, presented at the Conference on Nuclear Physics in Astrophysics 7, York, U.K., June 2015.

**Using the prototype active-target time-projection chamber with Twinsol radioactive beams**, T. Ahn *et al.*, presented at the 2015 Conference on Electromagnetic Ion Separators, Grand Rapids, MI, May 2015.

**Recent results from the TwinSol low-energy RIB facility**, F. Becchetti *et al.*, presented at the 2015 Conference on Electromagnetic Ion Separators, Grand Rapids, MI, May 2015.

**A recoil separator for nuclear astrophysics SECAR**, G. P. A. Berg *et al.*, presented at the 2015 Conference on Electromagnetic Ion Separators, Grand Rapids, MI, May 2015.

**TwinSol: Cleaning up LE RIB production at Notre Dame**, P. D. O'Malley *et al.*, presented at the 2015 Conference on Electromagnetic Ion Separators, Grand Rapids, MI, May 2015.

**Minimizing residual pressure within a windowless gas target system – JENSA**, O. Gomez *et al.*, presented at the annual meeting of the Southeastern Section of the American Physical Society, Columbia, SC, November 2014.

**Neutron hole states in  $^{131}\text{Sn}$  studied via the  $^{132}\text{Sn}(d,t)^{131}\text{Sn}$  reaction**, R. Orlandi *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**Neutron spectroscopy measurements of the  $d(^7\text{Be},n)^8\text{B}$  reaction with a deuterated scintillator array (UM-DSA)**, M. Febraro *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**The study of halo states in  $^{10}\text{Be}$  and  $^{11}\text{Be}$** , K. Kuhn *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**Measuring  $^{19}\text{F}(\alpha,n)$  with VANDLE for Nuclear Safeguards**, W. A. Peters *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**Reducing ambiguities in spectroscopic factors and the  $^{86}\text{Kr}(d,p)$  reaction at 35 MeV/u**, D. Walter *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**Monte Carlo simulations of VANDLE for reaction and  $\beta$ -delayed neutron decay studies**, S. Ilyushkin *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**An overview of the JENSA gas jet target system with preliminary  $^{20}\text{Ne}(p,t)^{18}\text{Ne}$  results**, P. Thompson *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**Study of the levels in  $^{12}\text{N}$  using the  $^{14}\text{N}(p,t)$  reaction with JENSA**, K. A. Chipps *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**Measurements of states in  $^{127}\text{Sn}$  and  $^{129}\text{Sn}$  with charged particle- $\gamma$  coincidences**, B. Manning *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**Measurement of the  $^{19}\text{F}(\alpha,n)$  cross section for nuclear safeguards science**, C. S. Reingold *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.

**SuperORRUBA in the JENSA gas jet target**, Nata Franco Soares de Bem *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Waikoloa, HI, October 2014.



**$\beta$ -delayed neutron spectroscopy of Ga isotopes with VANDLE**, M. Madurga *et al.*, presented at the Zakopane Conference on Nuclear Physics, Zakopane, Poland, August 2014.

**Gamow-Teller decay of  $^{78}\text{Ni}$  core states from beta delayed neutron spectroscopy**, R. Grzywacz *et al.*, presented at Nuclear Structure 2014, Vancouver, Canada, July 2014.

**Study of beta-delayed neutrons from  $^{77}\text{Cu}$  using VANDLE**, S. V. Paulauskas *et al.*, presented at Nuclear Structure 2014, Vancouver, Canada, July 2014.

**Resonance energy measurements along the rp-process path with GRETINA**, W. Ong *et al.*, presented at NIC XIII – Nuclei in the Cosmos, Debrecen, Hungary, July 2014.

**Neutron capture cross sections near  $^{132}\text{Sn}$  and r-process nucleosynthesis**, J. A. Cizewski *et al.*, presented at NIC XIII – Nuclei in the Cosmos, Debrecen, Hungary, July 2014.

**Development of GODDESS for transfer studies for r-process nucleosynthesis**, S. D. Pain *et al.*, presented at NIC XIII – Nuclei in the Cosmos, Debrecen, Hungary, July 2014.

**Constraining the  $^{26}\text{Al}(p,\gamma)^{27}\text{Si}$  reaction rate**, S. D. Pain *et al.*, presented at NIC XIII – Nuclei in the Cosmos, Debrecen, Hungary, July 2014.

**$^{31}\text{Cl}$  beta decay and the  $^{30}\text{P}(p,\gamma)^{31}\text{S}$  reaction rate**, M. B. Bennett *et al.*, presented at NIC XIII – Nuclei in the Cosmos, Debrecen, Hungary, July 2014.

**Studies of ( $\alpha,p$ ) reactions important for X-ray bursts using radioactive beams from RESOLUT**, J. C. Blackmon *et al.*, presented at NIC XIII – Nuclei in the Cosmos, Debrecen, Hungary, July 2014.

**JENSA: A new tool for direct reaction experiments**, A. Kontos *et al.*, presented at DREB2014 – Direct Reactions with Exotic Beams, Darmstadt, Germany, June 2014.

**Constraining the  $^{26}\text{Al}(p,\gamma)^{27}\text{Si}$  reaction rate**, S. D. Pain *et al.*, presented at DREB2014 – Direct Reactions with Exotic Beams, Darmstadt, Germany, June 2014.

**Systematics of single-neutron strength in neutron-rich Sn nuclei**, J. A. Cizewski *et al.*, presented at DREB2014 – Direct Reactions with Exotic Beams, Darmstadt, Germany, June 2014.

**Studies of ( $\alpha,p$ ) reactions important for X-ray bursts using radioactive beams from RESOLUT**, J. C. Blackmon *et al.*, presented at ARIS2014- Advances in Radioactive Isotope Science, Tokyo, Japan, June 2014.

**$\beta$ -delayed neutron spectroscopy of r-process fission fragments**, M. Madurga *et al.*, presented at ARIS2014- Advances in Radioactive Isotope Science, Tokyo, Japan, June 2014.

**Beta decay as a probe of explosive nucleosynthesis in classical novae**, C. Wrede *et al.*, presented at CAARI – the Conference on the Application of Accelerators to Research and Industry, San Antonio, TX, May 2014.

**The  $^{26}\text{Al}(p,\gamma)^{27}\text{Si}$  reaction at stellar temperatures**, S. D. Pain *et al.*, presented at CAARI – the Conference on the Application of Accelerators to Research and Industry, San Antonio, TX, May 2014.

**Past and future studies of beta-delayed neutrons with VANDLE**, K. Kolos *et al.*, presented at CAARI – the Conference on the Application of Accelerators to Research and Industry, San Antonio, TX, May 2014.

**First experiments performed with the JENSA gas jet target system**, P. J. Thompson *et al.*, presented at the April Meeting of the American Physical Society, Savannah, GA, April 2014.

**Informing neutron-capture rates through (d,p) reactions on neutron-rich tin isotopes**, B. Manning *et al.*, presented at the April Meeting of the American Physical Society, Savannah, GA, April 2014.

**Particle-gamma measurements for nuclear astrophysics**, S. D. Pain *et al.*, presented at the April Meeting of the American Physical Society, Savannah, GA, April 2014.

**Determining the resonance strength of the  $^{56}\text{Ni}$  rp-process waiting point through (d,n) with VANDLE and MoNA-LISA**, W. A. Peters *et al.*, presented at the April Meeting of the American Physical Society, Savannah, GA, April 2014.

**The JENSA Gas Jet Target**, K. A. Chipps *et al.*, presented at the April Meeting of the American Physical Society, Savannah, GA, April 2014.

**Testing and characterization of the JENSA gas jet target**, K. A. Chipps *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Measurement of the  $^{19}\text{F}(\alpha,n)$  cross section for nuclear safeguards science**, C. S. Reingold *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Measurements with heavy-ion ( $^9\text{Be}, ^8\text{Be}-\gamma$ ) and ( $^{13}\text{C}, ^{12}\text{C}-\gamma$ ) single-neutron transfers to inform on the astrophysical  $^{130}\text{Sn}(n,\gamma)$  reaction**, A. Bey *et al.*, presented at the Fourth International Workshop on Compound-Nuclear Reactions, Sao Paulo, Brazil, October 2013.

**Measurement of astrophysically important excitation energies of  $^{58}\text{Zn}$  with GRETINA**, C. Langer for the E11024 Collaboration, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Measuring the partial width of the  $^{56}\text{Ni}$  proton-capture resonance through (d,n) with VANDLE and MoNA-LISA**, W. Peters *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Coupling the ORRUBA and Gammasphere Arrays**, S. D. Pain *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**High-resolution single-neutron transfer measurements in  $^{131}\text{Sn}$** , A. Bey *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Evolution of single-neutron states in tin isotopes**, B. Manning *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**First study of neutron-transfer onto neutron-rich  $^{80}\text{Ge}$** , S. Ahn *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Beta-delayed neutron spectroscopy on the N=53  $^{84}\text{Ga}$  isotope with VANDLE**, M. Madurga *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Development of the Position Sensitive Ionization Chamber for ANASEN**, H. Gardiner *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Study of the beta-delayed neutrons from  $^{77}\text{Cu}$  using VANDLE**, S. Paulauskas *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**First scattering reaction using JENSA Gas Jet Target**, A. Sachs *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Optimizing VANDLE for Decay Spectroscopy**, N. T. Brewer *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Optimization of VANDLE for  $\beta$ -delayed neutron decay studies using GEANT4**, S. Ilyushkin *et al.*, presented at the Fall Meeting of the DNP, Newport News, VA, October 2013.

**Gamma-ray spectroscopy of the semi-magical  $^{131}\text{Sn}_{81}$ : precise location of the single-neutron states and first measurement of neutron-transfer on an isomer**, A. Bey *et al.*, presented at the XXXIII Mazurian Lakes Conference on Physics, Piaski, Poland, September 2013.

**$\beta$ -decay properties of fission fragments in the r-process path**, M. Madurga *et al.*, presented at the International Nuclear Physics Conference, Florence, Italy, June 2013.

**Measurement of astrophysically important excitation energies of  $^{58}\text{Zn}$  with GRETINA**, C. Langer *et al.*, presented at the International Nuclear Physics Conference, Florence, Italy, June 2013.

**A next generation recoil separator for nuclear astrophysics SECAR**, G. P. A. Berg *et al.*, presented at Nuclear Physics in Astrophysics, Lisbon, Portugal, May 2013.

**Development of a tracking detector for transfer reactions with light beams at NSCL**, S. Ilyushkin *et al.*, presented at the Spring Meeting of the American Physical Society, Denver, CO, April 2013.

**Designing the coupling of Gammasphere and ORRUBA**, C. M. Shand *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Studies of  $^{18}\text{Ne}$  using ANASEN**, L. E. Linhardt *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Neutron transfer reactions with  $^{126,128}\text{Sn}$  rare isotope beams**, B. Manning *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Commissioning of the VANDLE neutron array with beta-delayed neutron spectroscopy**, W. Peters *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Low-lying structure of the N=49 nucleus  $^{81}\text{Ge}$** , S. Ahn *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Search for resonant enhancement of the  $^7\text{Be}+d$  reaction**, P. O'Malley *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Measurement of the  $^{26}\text{gAl}(d,p)^{27}\text{Al}$  reaction to constrain the  $^{26}\text{gAl}$  destruction reaction rate**, S. D. Pain for the ORRUBA/RIBENS collaboration, *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**SuperORRUBA Test Results**, A. J. Burkhart *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Preparation for MoNA/LISA VANDLE  $^{56}\text{Ni}(d,n)$  Experiment at the NSCL**, Z. J. Bergstrom *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Assembling, Characterizing, and Measuring the Efficiency of VANDLE**, R. Ikeyama *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Newport Beach, CA, October 2012.

**Neutron transfer reactions with tin beams and r-process nucleosynthesis**, J. A. Cizewski *et al.*, presented at the XII International Symposium on Nuclei in the Cosmos, Cairns, Australia, August 2012.

**Beta decay of  $^{26}\text{P}$  to determine the  $^{25}\text{Al}(p,\gamma)^{26}\text{Si}$  reaction rate in novae**, C. Wrede *et al.*, presented at the XII International Symposium on Nuclei in the Cosmos, Cairns, Australia, August 2012.

**Study of the low-lying structure of the N=49 nucleus,  $^{81}\text{Ge}$** , S. Ahn *et al.*, presented at the Nuclear Structure 2012 Conference, Argonne, IL, August 2012.

**Single neutron levels near the N=82 shell gap**, B. Manning *et al.*, presented at the Nuclear Structure 2012 Conference, Argonne, IL, August 2012.

**Measurement of the  $^{26}\text{gAl}(d,p)^{27}\text{Al}$  reaction to constrain the  $^{26}\text{gAl}(p,\gamma)^{27}\text{Si}$  reaction rate**, S. D. Pain *et al.*, presented at the Nuclear Structure 2012 Conference, Argonne, IL, August 2012.

**SuperORRUBA with ASICS and the measurement of  $^{80}\text{Ge}(d,p)$** , S. Ahn *et al.*, invited talk, presented at the International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX, August 2012.

**A gas jet target for radioactive ion beam experiments**, K. A. Chipps *et al.*, invited talk, presented at the International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX, August 2012.

**Nuclear structure near the N=50 shell closure**, M. E. Howard *et al.*, invited talk, presented at the International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX, August 2012.

**Single-neutron levels near the N=82 shell closure**, B. Manning *et al.*, invited talk, presented at the International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX, August 2012.

**Coupling Gammasphere and ORRUBA**, A. Ratkiewicz *et al.*, invited talk, presented at the International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX, August 2012.

**VANDLE: A new neutron array for (d,n) reactions in inverse kinematics**, W. A. Peters *et al.*, presented at the 7th International Workshop on Direct Reactions with Exotic Beams – DREB2012, Pisa, Italy, March 2012.

**Exploring Single-Hole State Evolution Near the N=50 Shell Closure**, M. E. Howard *et al.*, presented at the 7th International Workshop on Direct Reactions with Exotic Beams – DREB2012, Pisa, Italy, March 2012.

**Spectroscopic factors for  $^{11}\text{Be}$  from recent (d,p) measurements with a  $^{10}\text{Be}$  beam**, A. Bey *et al.*, presented at the 7th International Workshop on Direct Reactions with Exotic Beams – DREB2012, Pisa, Italy, March 2012.

**Exploring Single-Hole State Evolution Near the N=50 Shell Closure**, M. E. Howard *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Single-neutron levels near the N=82 shell gap**, B. Manning *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Search for resonant enhancement of the  ${}^7\text{Be}+d$  reaction**, P. D. O'Malley *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Studying the low-lying structure of N=49 nucleus,  ${}^{81}\text{Ge}$** , S. H. Ahn *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Developing a fast ionization chamber for transfer reaction studies**, K. Y. Chae *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Low-threshold neutron detection for proton-transfer reactions with VANDLE**, W. A. Peters *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Coupling the ORRUBA and Gammasphere Arrays**, S. Hardy *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Development of tracking detector for transfer reactions with light beams at NSCL**, S. Ilyushkin *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Measurement of the  ${}^{26}\text{Al}(d,p){}^{27}\text{Al}$  reaction to constrain the  ${}^{26}\text{Al}(p,\gamma)$  reaction rate**, S. D. Pain *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Exploring the single-particle structure of  ${}^{11}\text{Be}$  with the one-neutron transfer reaction  ${}^2\text{H}({}^{10}\text{Be},p){}^{11}\text{Be}$** , K. Schmitt *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Beam characterization and optimization using a tunable iris aperture**, S. A. Graves *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Creation of thin deuterated polyethylene targets for inverse kinematics transfer reaction measurements**, K. D. Long *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Complementary neutron efficiency measurements using VANDLE**, P. Copp *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Spin assignments of excited states in  ${}^{23}\text{Mg}$  through a  ${}^{24}\text{Mg}(p,d){}^{23}\text{Mg}$  reaction**, S. Strauss *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Targets for inverse ( $^3\text{He},d$ ) reaction studies with radioactive ion beams**, J. L. Wheeler *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**Testing a new system for charged-particle nuclear reactions**, H. Gardiner *et al.*, presented at the Division of Nuclear Physics Meeting, East Lansing, MI, October 2011.

**A Gas Jet Target for Radioactive Ion Beam Experiments**, K. Chipps *et al.*, presented at the 14th international Conference on Capture Gamma-Ray Spectroscopy and Related Topics, Guelph, Ontario Canada, August 2011.

**Results of  $^{75}\text{As}(d,p)$  in inverse kinematics as a surrogate for neutron capture**, W. A. Peters *et al.*, presented at the 14th international Conference on Capture Gamma-Ray Spectroscopy and Related Topics, Guelph, Ontario Canada, August 2011.

**VANDLE: A new tool for indirectly measuring  $(p,\gamma)$  strengths**, W. A. Peters *et al.*, presented at the First International Conference on Advances in Radioactive Isotope Science (ARIS-2011), Leuven, Belgium, May 2011.

**Implementation of multi-channel electronics into ORNL DAQ system for nuclear reaction studies**, S. H. Ahn *et al.*, presented at the Spring Meeting of the American Physical Society, Anaheim, CA, April 2011.

**The  $^{26}\text{Al} + p$  elastic scattering reaction and Galactic abundances of  $^{26}\text{Al}$** , S. T. Pittman *et al.*, presented at the Spring Meeting of the American Physical Society, Anaheim, CA, April 2011.

**Characterization and efficiency of the versatile array of neutron detectors at low energy (VANDLE)**, W. A. Peters *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Using HiRA and the  $(p,d)$  reaction to explore single-hole state evolution near the N=50 shell closure**, M. E. Howard *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Study of  $^{19}\text{Ne}$  levels of importance to  $^{18}\text{F}$  production in novae**, P. D. O'Malley *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Study of the  $^{19}\text{F}(\alpha,p)^{22}\text{Ne}$  reaction with an extended gas target**, K. Y. Chae *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Program for simulating energy spectra in transfer reaction studies**, S. A. Graves *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Development of a high-rate ionization counter**, S. Strauss *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Implanted  $^3\text{He}$  targets for inverse reaction studies with radioactive ion beams**, J. L. Wheeler *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Measurement of  $^{26}\text{Al}(\text{d},\text{p})^{27}\text{Al}$  to constrain the  $^{26}\text{Al}(\text{p},\alpha)$  reaction rate**, S. Pain *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Characterization and resolution of VANDLE Modules**, I. Spassova *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Optical potential analysis for  $^{26}\text{Al}$  elastic scattering of protons and deuterons**, A. Bey *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**$^7\text{Be}$  implantation in plastics for prosthesis wear studies**, U. Greife *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**B-delayed neutron precursors with the Versatile Array of Neutron Detectors at Low Energies (VANDLE)**, M. Madurga *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Implementation of multi-channel electronics system for astrophysical reaction studies at ORNL**, S. H. Ahn *et al.*, presented at the Division of Nuclear Physics Meeting, Sante Fe, NM, November 2010.

**Results of a recent  $^{10}\text{Be}(\text{d},\text{p})$  experiment populating the low-lying levels of  $^{11}\text{Be}$** , K. T. Schmitt *et al.*, presented at Nuclear Structure 2010, Berkeley, CA, August 2010.

**Recent (p,d) Experiment Using HiRA at the NSCL to Explore Single-Hole State Evolution Near the N=50 Shell Closure**, M. E. Howard *et al.*, presented at the Pan-American Advanced Studies Institute on Rare Isotopes (PASI), Joao Pessoa, Brazil, August 2010.

**Single particle spectroscopy of  $^{133}\text{Sn}$  via the (d,p) reaction in inverse kinematics**, K. L. Jones *et al.*, presented at the 11<sup>th</sup> Symposium on Nuclei in the Cosmos, Heidelberg, Germany, July 2010.

**The  $^{28}\text{Si}(\text{p},\text{t})^{26}\text{Si}$  Reaction and Implications for  $^{25}\text{Al}(\text{p},\alpha)^{26}\text{Si}$** , K. A. Chipps *et al.*, presented at the 11<sup>th</sup> Symposium on Nuclei in the Cosmos, Heidelberg, Germany, July 2010.

**Measurements for understanding the astrophysical destruction of  $^{26}\text{Al}$** , S. D. Pain *et al.*, presented at the 11<sup>th</sup> Symposium on Nuclei in the Cosmos, Heidelberg, Germany, July 2010.

**Unbound states of  $^{32}\text{Cl}$  relevant for novae**, M. Matos *et al.*, presented at the 11<sup>th</sup> Symposium on Nuclei in the Cosmos, Heidelberg, Germany, July 2010.

**A new technique for measuring astrophysically important ( $\alpha,\text{p}$ ) reactions**, K. Y. Chae *et al.*, presented at the 11<sup>th</sup> Symposium on Nuclei in the Cosmos, Heidelberg, Germany, July 2010.



**Characterizing VANDLE Modules**, W. A. Peters *et al.*, presented at the International Nuclear Physics Conference 2010, Vancouver, Canada, July 2010.

**Measurements for understanding the astrophysical destruction of  $^{26}\text{Al}$** , S. D. Pain *et al.*, presented at the International Nuclear Physics Conference 2010, Vancouver, Canada, July 2010.

**ORNL Radioactive Beams for Stellar Explosion Studies**, M. S. Smith *et al.*, presented at OMEG10, Japan March 2010.

**The  $^{17}\text{F}(p,\alpha)^{18}\text{Ne}$  resonant cross section**, K. A. Chipps *et al.*, presented at the IoP Nuclear Physics Conference, Edinburgh, Scotland April 2010.

**ORNL Radioactive Beams for Stellar Explosion Studies**, M. S. Smith *et al.*, presented at the The 10th International Symposium on Origin of Matter and Evolution of the Galaxies (OMEG10), Osaka, Japan, March 2010.

**Spin assignments to excited states in  $^{22}\text{Na}$  through a  $^{24}\text{Mg}(p,^3\text{He})^{22}\text{Na}$  reaction measurement**, K. Y. Chae *et al.*, presented at the April Meeting of the American Physics Society, Washington D.C., February 2010.

**Efficiency measurement of VANDLE modules**, W. A. Peters *et al.*, presented at the April Meeting of the American Physics Society, Washington D.C., February 2010.

**Single-particle structure of neutron-rich nuclei**, J.A. Cizewski, K.L. Jones, R.L. Kozub, S.D. Pain and the ORRUBA/RIBENS Collaboration, presented at the XXXIII Symposium on Nuclear Physics, Cocoyoc, Mexico January 2010.

**Measuring  $^{80}\text{Ge}(d,p)$  with exotic beams**, P. O'Malley *et al.*, presented at the conference on Direct Reactions with Exotic Beams, Tallahassee, FL, December 2009.

**Position-sensitive double-sided Si strip detectors for transfer**, J. A. Cizewski *et al.*, presented at the conference on Direct Reactions with Exotic Beams, Tallahassee, FL, December 2009.

**Upcoming (p,d) experiment using HIRA at the NSCL to explore single hole state evolution near the N=50 shell closure**, M. E. Howard *et al.*, presented at the conference on Direct Reactions with Exotic Beams, Tallahassee, FL, December 2009.

**HRIBF (d,p $\alpha$ ) setup in inverse kinematics for surrogates and direct transfer measurements**, W. A. Peters *et al.*, presented at the conference on Direct Reactions with Exotic Beams, Tallahassee, FL, December 2009.

**Single-particle structure close to  $^{132}\text{Sn}$  explored through the (d,p) reaction in inverse kinematics**, K. L. Jones *et al.*, presented at the conference on Direct Reactions with Exotic Beams, Tallahassee, FL, December 2009.

**First results for a recent  $^{10}\text{Be}(\text{d},\text{p})$  experiment in inverse kinematics**, K. T. Schmitt *et al.*, presented at the conference on Direct Reactions with Exotic Beams, Tallahassee, FL, December 2009.

**Unbound states of  $^{32}\text{Cl}$  studied via the  $^{32}\text{S}(\text{}^3\text{He},\text{t})^{32}\text{Cl}$  charge-exchange reaction**, M. Matos *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**GEANT4 simulations of the Versatile Array of Neutron Detectors at Low Energies (VANDLE)**, F. Raiola *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**Development of digital electronics for VANDLE**, M. Madurga *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**Analysis of  $^{26}\text{Al}+\text{p}$  elastic and inelastic scattering reactions in inverse kinematics at HRIBF**, S. T. Pittman *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**Development of a large acceptance, tracking gas ionization counter**, C. Dupuis *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**Development of an Automated Target Oscillator for use in Reaction Studies**, W. Martin *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**Performance of a 2m prototype neutron detector for VANDLE**, C. Pangan *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**Implanted helium targets for use in inverse kinematics**, J. L. Wheeler *et al.*, presented at the 3<sup>rd</sup> Joint Meeting of the APS Division of Nuclear Physics and the Physical Society of Japan, Waikoloa, HI, October 2009.

**Neutron transfer measurements around the N=82 shell closure**, S. D. Pain *et al.*, presented at the 8<sup>th</sup> International Conference on Radioactive Nuclear Beams (RNB8), Grand Rapids, MI, May 2009.

**Proton transfer to unbound  $^{19}\text{Ne}$  states and the  $^{18}\text{F}(\text{p},\alpha)^{15}\text{O}$  reaction rate**, A. S. Adekola *et al.*, presented at the 8<sup>th</sup> International Conference on Radioactive Nuclear Beams (RNB8), Grand Rapids, MI, May 2009.

**VANDLE: The versatile array of neutron detectors at low energy**, C. Matei *et al.*, presented at the 8<sup>th</sup> International Conference on Radioactive Nuclear Beams (RNB8), Grand Rapids, MI, May 2009.

**Direct study of the astrophysically important  $^{17}\text{F}(p,\bar{n})^{18}\text{Ne}$  reaction**, K. A. Chipps *et al.*, presented at the 8<sup>th</sup> International Conference on Radioactive Nuclear Beams (RNB8), Grand Rapids, MI, May 2009.

**Single-particle structure of  $^{133}\text{Sn}$  explored through the  $^{132}\text{Sn}(d,p)$  reaction in inverse kinematics**, K. L. Jones *et al.*, presented at the April Meeting of the APS, Denver, CO, May 2009.

**Commissioning of the windowless gas target at ORNL's Holifield Radioactive Ion Beam Facility**, B. H. Moazen *et al.*, presented at the April Meeting of the APS, Denver, CO, May 2009.

**Spin assignments of  $^{22}\text{Mg}$  levels through a  $^{24}\text{Mg}(p,t)^{22}\text{Mg}$  measurement**, K. Y. Chae *et al.*, presented at the April Meeting of the APS, Denver, CO, May 2009.

**Direct measurement of low-energy resonances in  $^{31}\text{P}(p,\bar{n})^{28}\text{Si}$  and  $^{35}\text{Cl}(p,\bar{n})^{32}\text{S}$** , C. Matei *et al.*, presented at the April Meeting of the APS, Denver, CO, May 2009.

**First direct measurement of the resonant  $^{17}\text{F}(p,\bar{n})^{18}\text{Ne}$  reaction rate**, K. A. Chipps *et al.*, presented at the April Meeting of the APS, Denver, CO, May 2009.

**Target implantation for inverse ( $^3\text{He},d$ ) reaction studies**, D. J. Sissom *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**CLEAR: Prospects for a low threshold neutrino experiment at the SNS**, J. Nikkel *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**Fortran simulation of Wien velocity filters in the Daresbury Recoil Separator at the HRIBF**, J. P. Rogers *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**Excitation energies of the unbound states in  $^{32}\text{Cl}$  studied via the  $^{32}\text{S}(^3\text{He},t)^{32}\text{Cl}$  charge exchange reaction**, M. Matos *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**New Measurements of spectroscopic factors for low-lying  $^{16}\text{N}$  levels**, P. D. O'Malley *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**$^{25}\text{Al}$  levels observed in the  $^{28}\text{Si}(p,\alpha)^{25}\text{Al}$  reaction**, S. T. Pittman *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**Measurement of Low Energy Resonances in  $^{31}\text{P}(p,\bar{n})^{28}\text{Si}$** , B. H. Moazen *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**Using (d,p $\gamma$ ) reactions as a surrogate for neutron capture with  $^{75}\text{As}$** , W. A. Peters *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**The Development of a Versatile Array of Neutron Detectors at Low Energy**, C. Matei *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**Surrogate reactions on fission fragments for nuclear energy**, R. Hatarik *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**First direct measurement of the  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$  cross section**, K. A. Chipps *et al.*, presented at the DNP meeting, Oakland, CA, October 2008.

**Measurement of the 330 keV resonance in  $^{18}\text{F}(p,\alpha)^{15}\text{O}$** , B. H. Moazen *et al.*, presented at the 5<sup>th</sup> International Conference on Exotic Nuclei and Atomic Masses, Ryn, Poland, September 2008.

**Studies of nuclei close to  $^{132}\text{Sn}$  using single-neutron transfer reactions**, K. L. Jones *et al.*, presented at the International Conference on New Aspects of Heavy-ion Collisions near the Coulomb Barrier, Chicago, IL, September 2008.

**Measurement of the 330 keV resonance in  $^{18}\text{F}(p,\alpha)^{15}\text{O}$** , B. H. Moazen *et al.*, presented at the Zakopane Conference on Nuclear Physics, Zakopane, Poland, September 2008.

**Neutron transfer reactions on neutron-rich N=50 and N=82 nuclei near the r-process path**, J. A. Cizewski *et al.*, presented at the 13th International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics, Cologne, Germany, August 2008.

**First Direct Measurement of the  $^{17}\text{F}(p,\alpha)^{18}\text{Ne}$  Cross Section**, K. A. Chipps *et al.*, presented at the 13th International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics, Cologne, Germany, August 2008.

**The Development of a Versatile Array of Neutron Detectors at Low Energy**, C. Matei *et al.*, presented at the 20th International Conference on the Application of Accelerators in Research & Industry, Fort Worth, TX, August 2008.

**Searching for resonances in the unbound  $^6\text{Be}$  nucleus**, K. Y. Chae *et al.*, presented at the 20th International Conference on the Application of Accelerators in Research & Industry, Fort Worth, TX, August 2008.

**Neutron transfer measurements around the mass 132 region**, S. D. Pain *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**Astrophysically important  $^{19}\text{Ne}$  states studied with the  $^2\text{H}(^{18}\text{F},\alpha+^{15}\text{O})\text{n}$  Reaction**, A. S. Adekola *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**An analysis of  $^{25}\text{Al}$  energy levels observed in the  $^{28}\text{Si}(p, \alpha)^{25}\text{Al}$  reaction**, S. T. Pittman *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**A novel technique for measuring narrow-resonance (p, $\alpha$ ) reactions**, B. H. Moazen *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**The Versatile Array of Neutron Detectors at Low Energy (VANDLE)**, C. Matei *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**Spin assignments of  $^{22}\text{Mg}$  through a  $^{24}\text{Mg}(p,t)^{22}\text{Mg}$  measurement**, K. Y. Chae *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**Neutron single particle structure in  $^{131}\text{Sn}$  and the r-process**, R. L. Kozub *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**First Measurement of the  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$  Cross Section**, K. A. Chipps *et al.*, presented at the 10<sup>th</sup> Symposium on Nuclei in the Cosmos, Mackinac Island, MI, July 2008.

**Using (d,p $\gamma$ ) reactions as a surrogate for neutron capture with radiochemical As isotopes**, W. A. Peters *et al.*, presented at the Nuclear Chemistry Gordon Research Conference, New London, NH, June 2008.

**Neutron-Transfer Reaction Studies with Radioactive Fission Fragment Beams**, J. A. Cizewski *et al.*, presented at the 9<sup>th</sup> International Conference on the Application of Nuclear Techniques, Crete, Greece, June 2008.

**Spin assignments of  $^{22}\text{Mg}$  through a  $^{24}\text{Mg}(p,t)^{22}\text{Mg}$  measurement**, K. Y. Chae *et al.*, presented at the April Meeting of the American Physical Society, St. Louis, MO, April 2008.

**Effects on  $^{18}\text{F}$  production in novae from changes in the  $^{17}\text{O}(p,\alpha)^{14}\text{N}$  rate**, B. H. Moazen *et al.*, presented at the April Meeting of the American Physical Society, St. Louis, MO, April 2008.

**ORNL Radioactive Beams for Stellar Explosion Studies**, M. S. Smith *et al.*, presented at the 10<sup>th</sup> International Symposium on Origin of Matter and Evolution of Galaxies, Sapporo, Japan, December 2007.

**Development of ORRUBA - A Silicon Array for the Measurement of Transfer Reactions in Inverse Kinematics**, S. D. Pain *et al.*, presented at the Fourth International Conference on Fission and Properties of Neutron-rich Nuclei, Sanibel Island, FL, November 2007.

**Single Neutron Structure of Neutron-Rich Nuclei Near  $^{132}\text{Sn}$** , J. A. Cizewski *et al.*, presented at the Fourth International Conference on Fission and Properties of Neutron-rich Nuclei, Sanibel Island, FL, November 2007.

**Search for the states in  ${}^8\text{B}$  via  ${}^7\text{Be} + \text{d}$** , L. Segen *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**Structure of  ${}^8\text{B}$  through  ${}^7\text{Be} + \text{p}$  scattering**, J. C. Blackmon *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**Measurement of the  ${}^{134}\text{Te}(\text{d},\text{p}){}^{135}\text{Te}$  reaction in inverse kinematics**, S. D. Pain *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**Single particle states in  ${}^{131}\text{Sn}$  and the r-process**, R. L. Kozub *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**The  ${}^{17}\text{O}(\text{p},\alpha){}^{14}\text{N}$  reaction measured using a novel technique**, B. H. Moazen *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**Searching for resonances in the unbound  ${}^6\text{Be}$  nucleus**, K. Y. Chae *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**Investigation of Plastic Scintillator Detector Configurations for Neutron Studies**, C. Matei *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**The single-particle states in  ${}^{133}\text{Sn}$  studied through the  ${}^{132}\text{Sn}(\text{d},\text{p})$  reaction**, K. L. Jones *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Newport News, VA, October 2007.

**Single-neutron structure of neutron-rich nuclei near  ${}^{132}\text{Sn}$** , K. L. Jones *et al.*, presented at the International Nuclear Physics Conference, Tokyo, Japan, June 2007.

**Radioactive beams & software tools for frontier stellar explosions studies**, M. S. Smith for the RIBENS Collaboration, presented at the International Nuclear Physics Conference, Tokyo, Japan, June 2007.

**Using  ${}^{171,173}\text{Yb}(\text{d}, \text{p})$  to benchmark a surrogate ratio for neutron capture**, R. Hatarik *et al.*, presented at the April Meeting of the American Physical Society, Jacksonville, FL, April 2007.

**Measurement of the  ${}^{134}\text{Te}(\text{d},\text{p}){}^{135}\text{Te}$  reaction in inverse kinematics**, S. D. Pain *et al.*, presented at the April Meeting of the American Physical Society, Jacksonville, FL, April 2007.

**The  ${}^{130}\text{Sn}(\text{d},\text{p}){}^{131}\text{Sn}$  reaction in inverse kinematics**, R. L. Kozub *et al.*, presented at the April Meeting of the American Physical Society, Jacksonville, FL, April 2007.

**Studies of level structure of  ${}^{19}\text{Ne}$  through measurement of the proton-transfer  ${}^2\text{H}({}^{18}\text{F},\alpha + {}^{15}\text{O})\text{n}$  reaction**, A. S. Adekola *et al.*, presented at the April Meeting of the American Physical Society, Jacksonville, FL, April 2007.

**Tests of a cryogenic gas cell for radioactive ion beam experiments**, K. Chipps *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Nashville, TN, October 2006.

**First experimental constraints on the interference of  $3/2^+$  resonances in the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  reaction**, K. Y. Chae *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Nashville, TN, October 2006.

**The  $^{17}\text{O}(p,\alpha)^{14}\text{N}$  reaction measured using a novel technique**, B. H. Moazen *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Nashville, TN, October 2006.

**A new  $^{30}\text{P}(p,\gamma)^{31}\text{S}$  reaction rate and its astrophysical implications**, Z. Ma *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Nashville, TN, October 2006.

**Measurement of  $^7\text{Be}+p$  elastic and inelastic scattering**, R. J. Livesay *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Nashville, TN, October 2006.

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**Development of the Oak Ridge Rutgers University Barrel Array**, S. D. Pain *et al.*, presented at the Fall Meeting of the Division of Nuclear Physics, Nashville, TN, October 2006.

**Results from  $(d,p)$  measurements in inverse kinematics at the HRIBF**, K. L. Jones and R. L. Kozub for the ORRUBA and RIBENS collaborations, presented at the Fall Meeting of the Division of Nuclear Physics, Nashville, TN, October 2006.

**First experimental constraints on the interference of  $3/2^+$  resonances in the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  reaction**, K. Y. Chae *et al.*, presented at the HRIBF Workshop on Nuclear Measurements for Astrophysics, Oak Ridge, TN, October 2006.

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**Study of unbound  $^{19}\text{Ne}$  states via the proton transfer reaction  $^2\text{H}(^{18}\text{F},\alpha+^{15}\text{O})n$** , C. R. Brune *et al.*, presented at the HRIBF Workshop on Nuclear Measurements for Astrophysics, Oak Ridge, TN, October 2006.

**The structure of  $^8\text{B}$  through measurement of  $^7\text{Be}+p$  scattering**, R. J. Livesay *et al.*, presented at the HRIBF Workshop on Nuclear Measurements for Astrophysics, Oak Ridge, TN, October 2006.

**Single neutron transfer experiments close to the r-process line**, K. L. Jones *et al.*, presented at the Zakopane Conference on Nuclear Physics, Zakopane, Poland, September 2006.

**(d,py) Reactions and the Surrogate Reaction Technique**, J.A. Cizewski *et al.*, presented at the 19<sup>th</sup> International Conference on the Application of Accelerators in Research and Industry, Ft. Worth, Texas, August 2006.

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**Recent results of experiments with radioactive  $^{21}\text{Na}$  and  $^7\text{Be}$  ion beams**, U. Greife *et al.*, presented at the 19<sup>th</sup> International Conference on the Application of Accelerators in Research and Industry, Ft. Worth, Texas, August 2006.

**Development of a high solid-angle silicon detector array for measurement of transfer reactions in inverse kinematics**, S. D. Pain *et al.*, presented at the 19<sup>th</sup> International Conference on the Application of Accelerators in Research and Industry, Ft. Worth, Texas, August 2006.

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**Measurement of Transfer Reactions on Fission Fragments in Inverse Kinematics**, S. D. Pain *et al.*, presented at Nuclear Structure 2006, Oak Ridge, TN, July 2006.

**The structure of  $^8\text{B}$  through measurement of  $^7\text{Be}+p$  scattering**, R. J. Livesay *et al.*, presented at Nuclear Structure 2006, Oak Ridge, TN, July 2006.

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**Single-particle strengths from the (d,p) reaction on  $^{18}\text{F}$** , R. L. Kozub *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Particle- $\gamma$  Coincidence Measurements of Neutron Transfer Reactions on Neutron-rich Nuclei**, M. S. Johnson *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Computational Infrastructure and Nuclear Data Activities for Nuclear Astrophysics at Oak Ridge National Laboratory**, C. D. Nesaraja *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Measurement of Transfer Reactions on Z=50 Fission Fragments in Inverse Kinematics**, S. D. Pain *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Analysis of the Astrophysically Important  $^{28}\text{Si}(p, t)^{26}\text{Si}$  Reaction**, J. A. Howard *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Fabrication of  $\text{CH}_2$  and  $\text{CD}_2$  Targets for Radioactive Ion Beam Experiments**, N. D. Smith *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

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**Development of techniques for off-line correction of non-linear signals from thin large area resistive-strip silicon detectors**, J. M. James *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Improving Energy Resolution for Neutron-Transfer Experiments at the HRIBF**, B. A. Schwer *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Measurements of  ${}^7\text{Be} + \text{p}$  elastic and inelastic scattering**, R. J. Livesay *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

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**Study of excited states in nuclei of astrophysical interest via the ( ${}^3\text{He},\text{p}$ ) reaction**, K. Chipps *et al.*, presented at the Division of Nuclear Physics Meeting (DNP), Maui, Hawaii, September 2005.

**Neutron-transfer reactions with exotic neutron-rich beams: Surrogates for neutron-capture reactions**, J. A. Cizewski *et al.*, presented at the 12<sup>th</sup> International Conference on Capture  $\gamma$ -ray Spectroscopy, Notre Dame, IN, September 2005.

**Low-Energy Neutrino Cross-Section Measurements at SNS**, I. Stancu (for the vSNS collaboration), presented at the 7th International Workshop on Neutrino Factories and Superbeams (NuFact-05), Laboratori Nazionali di Frascati, Frascati, Italy, June 2005.

**Measurement of Transfer Reactions on Z=50 Fission Fragments in Inverse Kinematics**, S. D. Pain *et al.*, presented at the International Conference on Direct Reactions with Exotic Beams (DREB), East Lansing, MI, June 2005.

**NEED TITLE**, J. S. Thomas *et al.*, presented at the International Conference on Direct Reactions with Exotic Beams (DREB), East Lansing, MI, June 2005.

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**Nuclear Data on Unstable Nuclei for Astrophysics**, M. S. Smith *et al.*, presented at Nuclear Physics in Astrophysics – II, Debrecen, Hungary, May 2005.

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**Nuclear Data Activities for Astrophysics at Oak Ridge National Laboratory**  
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**Development of a High Solid-Angle Silicon Detector Array for Measurement of Transfer Reactions in Inverse Kinematics**, S.D. Pain *et al.*, presented at the annual meeting of SESAPS, Oak Ridge, TN, November 2004.

**Neutrino Cross Section Measurements at the Spallation Neutron Source**, J. C. Blackmon *et al.*, presented at the annual meeting of SESAPS, Oak Ridge, TN, November 2004.

**A measurement of  ${}^7\text{Be} + p$  elastic scattering with a radioactive ion beam**, J. Livesay *et al.*, presented at the Division of Nuclear Physics (DNP) Meeting, Chicago, IL, October 2004.

**Studies of  $(p,\gamma)$  reactions with the Daresbury Recoil Separator at ORNL's HRIBF**, R. Fitzgerald *et al.*, presented at the Division of Nuclear Physics (DNP) Meeting, Chicago, IL, October 2004.

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**Nuclear data on unstable nuclei for astrophysics**, M. S. Smith *et al.*, presented at the Division of Nuclear Physics (DNP) Meeting, Chicago, IL, October 2004.

**Stopping Powers of Heavy Ions in Hydrogen and Helium Gas**, C. P. Domizioli *et al.*, presented at the Division of Nuclear Physics (DNP) Meeting, Chicago, IL, October 2004.

**Fabrication of Deuterated Polyethylene Targets for Radioactive Ion Beam Experiments**, J. A. Howard *et al.*, presented at the Division of Nuclear Physics (DNP) Meeting, Chicago, IL, October 2004.

**Segmented detector development for the u-SNS experiment**, K. Chipps *et al.*, presented at the Division of Nuclear Physics (DNP) Meeting, Chicago, IL, October 2004.

**Monte Carlo simulations of a cosmic ray veto for the u-SNS experiment**, L. Erikson *et al.*, presented at the Division of Nuclear Physics (DNP) Meeting, Chicago, IL, October 2004.

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**Development of the Oak Ridge Rutgers University Barrel Array (ORRUBA)**, M. S. Johnson *et al.*, presented at the Conference on Exotic Nuclei and Masses (ENAM04), Pine Mountain, GA, September 2004.

**Developing techniques to study  $A\sim 132$  nuclei with  $(d,p)$  reactions in inverse kinematics**, K. L. Jones *et al.*, presented at the Conference on Exotic Nuclei and Masses (ENAM04), Pine Mountain, GA, September 2004.

**Nuclear Data Evaluations of Structure and Reactions of Exotic Nuclei for Astrophysics**, M. S. Smith *et al.*, presented at the Conference on Exotic Nuclei and Masses (ENAM04), Pine Mountain, GA, September 2004.

**The structure of  $^{18}\text{Ne}$** , J. C. Blackmon *et al.*, presented at the Conference on Exotic Nuclei and Masses (ENAM04), Pine Mountain, GA, September 2004.

**Single-Neutron Excitations in Neutron-Rich  $N=51$  Nuclei**, J. S. Thomas *et al.*, presented at the Conference on Exotic Nuclei and Masses (ENAM04), Pine Mountain, GA, September 2004.

**Measurements of Neutron-Rich Nuclei with (d,p) Reactions in Inverse Kinematics at the HRIBF**, K. L. Jones *et al.*, presented at the Conference on Nuclei at the Limits, Argonne, IL, July 2004.

**Measurement of the  $^{32}\text{S}(p,d)^{31}\text{S}$  Reaction For  $^{30}\text{P}(p,\gamma)^{31}\text{S}$  Nova Nucleosynthesis Study**, Z. Ma *et al.*, presented at Nuclei in the Cosmos, Vancouver, B.C., Canada, July 2004.

**Nova Nucleosynthesis with New  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$  and  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  Reaction Rates**, S. Parete-Koon *et al.*, presented at Nuclei in the Cosmos, Vancouver, B.C., Canada, July 2004.

**A New Computational Infrastructure for Nuclear Astrophysics**, C. D. Nesaraja *et al.*, presented at Nuclei in the Cosmos, Vancouver, B.C., Canada, July 2004.

**New Limits for the  $^{18}\text{F}(p,\alpha)^{15}\text{O}$  Rate in Novae**, R. L. Kozub *et al.*, presented at Nuclei in the Cosmos, Vancouver, B.C., Canada, July 2004.

**Nuclear Astrophysics Data: Evaluations of Reactions on Unstable Nuclei**, M. S. Smith *et al.*, presented at Nuclei in the Cosmos, Vancouver, B.C., Canada, July 2004.

**Neutron Single-Particle States in R-Process Nuclei Near Closed Shells**, J. S. Thomas *et al.*, presented at Nuclei in the Cosmos, Vancouver, B.C., Canada, July 2004.

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**Prospects for Neutrino Physics at the Spallation Neutron Source**, V. Cianciolo for the v-SNS collaboration, presented at the Carolina Neutrino Workshop, April 2004.

**Recent Nuclear Astrophysics Data Activities at ORNL**, M. S. Smith *et al.*, presented at the Conference on the Origin of Matter and Evolution of Galaxies 2003 (OMEG03), Wako, Japan, November 2003.

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**Element Synthesis Calculations for Stellar Explosions: Robust Uncertainties, Sensitivities, and Radioactive Ion Beam Measurements**, M. S. Smith *et al.*, presented at the 6<sup>th</sup> International Conference on Radioactive Nuclear Beams, Argonne, IL, September 2003.

**Nuclear Data on Unstable Nuclei for Astrophysics**, M. S. Smith *et al.*, presented at the 6<sup>th</sup> International Conference on Radioactive Nuclear Beams, Argonne, IL, September 2003.

**Single Particle Structure of Neutron-Rich Nuclei**, J. A. Cizewski *et al.*, presented at the International Conference on the Labyrinth in Nuclear Structure, Crete, Greece, July 2003.

**Neutron Transfer Reactions with Exotic Beams at HRIBF**, J. A. Cizewski *et al.*, presented at the Conference on Direct Reactions with Exotic Beams, Guildford, United Kingdom, July 2003.

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**$^2\text{H}(^{18}\text{F}, p)^{19}\text{F}$  study at 6 MeV/u**, R.L. Kozub *et al.*, presented at the APS April Meeting, Philadelphia, PA, April 2003.

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**Construction and Testing of a Windowless Gas Target for Use in Astrophysics Research at the Holifield Radioactive Ion Beam Facility**, E. Abbotoy *et al.*, presented at the DNP meeting, Maui, HI, October 2001.

**Determination of the  $^{14}\text{O}(\alpha, p_1)^{17}\text{F}^*$  reaction rate by measurement of the  $^1\text{H}(^{17}\text{F}, p_1)^{17}\text{F}^*$  inelastic scattering cross section**, R. Brummitt *et al.*, presented at the DNP meeting, Maui, HI, October 2001.

**A new  $^{17}\text{F}(p, \alpha)^{18}\text{Ne}$  reaction rate and its astrophysical implications**, M. S. Smith *et al.*, presented at the ISOL01 conference, Oak Ridge, TN, March 2001.

**Measurement of the  $^7\text{Be}(p, \alpha)^8\text{B}$  cross section at the HRIBF**, Z. Ma *et al.*, presented at the ISOL01 conference, Oak Ridge, TN, March 2001.

**An experimental endstation for the measurement of capture reactions with radioactive ion beams at the HRIBF**, J. C. Blackmon *et al.*, presented at the ISOL01 conference, Oak Ridge, TN, March 2001.

**ORLaND - Oak Ridge Laboratory for Neutrino Detectors**, F. Plasil *et al.*, presented at the 17<sup>th</sup> Winter Workshop on Nuclear Dynamics, Park City, UT, March 2001.

**Measurement of the  $^1\text{H}(^{17}\text{F}, \alpha)^{14}\text{O}$  Cross Section and the  $^{14}\text{O}(\alpha, p)^{17}\text{F}_{g.s.}$  Reaction Rate**, J.C. Blackmon *et al.*, presented at the DNP meeting, Williamsburg, VA, October 2000.

**Elastic Scattering of  $^{17}\text{F}$  by  $^{12}\text{C}$** , M. Blackston *et al.*, presented at the DNP meeting, Williamsburg, VA, October 2000.

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**Measurements of Astrophysical Capture Reactions with a Recoil Separator at a Next Generation ISOL Facility**, M. S. Smith *et al.*, presented at the DNP Meeting, Pacific Grove, CA, October 1999.

**Recent Nuclear Astrophysics Data Activities in the U.S.**, M.S. Smith *et al.*, presented at the 10<sup>th</sup> International Symposium on Capture Gamma-Ray Spectroscopy, Santa Fe, NM, September 1999.

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