

GREGORY CHRISTIAN

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SUMMARY – I am an experimental nuclear physicist and currently an assistant professor at Saint Mary’s University in Halifax, NS Canada. My research interests are astrophysical nuclear reactions and the structure of nuclei far from stability. I am also interested in detector and algorithm development for the next generation of nuclear physics experiments.

EDUCATION

Michigan State University 2005 – 2011

- PhD in Physics, 2011
 - Thesis: *Spectroscopy of neutron-unbound fluorine*
 - Advisor: A. Spyrou
- MSc in Physics, 2008
 - Thesis: *Production of Nuclei in Neutron Unbound States via Primary Fragmentation of ^{48}Ca*
 - Advisor: M. Thoennessen

Georgia Institute of Technology 2001 – 2005

- BSc in Physics, *Summa cum laude*

PROFESSIONAL EXPERIENCE

Saint Mary’s University 2019 – present

Assistant Professor (tenure-track)

Research focus: Direct and indirect measurements of astrophysical resonance strengths; structure of light, unstable nuclei; neutron and TPC detector development.

Teaching focus: Upper-level undergraduate courses in Quantum Mechanics, Nuclear Physics, and Computational Methods; introductory and advanced laboratories.

Texas A&M University 2015 – 2019

Assistant Professor (tenure-track)

Research focus: Transfer reactions with stable and rare-isotope beams; development of advanced neutron detectors.

Teaching focus: Introductory courses in Classical Mechanics and E&M; development of modern, open-inquiry introductory physics laboratories.

TRIUMF – Canada’s National Laboratory for Particle and Nuclear Physics 2011 – 2015

Postdoctoral Research Associate

Research focus: Direct measurements of astrophysical radiative capture reactions.

Michigan State University 2005 – 2011

Graduate Research Assistant

Research focus: Decay spectroscopy of unbound states in neutron-rich nuclei.

RESEARCH FUNDING

Awarded

National Sciences and Engineering Research Council of Canada (NSERC)

Discovery Grant

Single-PI grant to study astrophysical reactions using direct and indirect measurements at TRIUMF.

- *Award dates:* 2020 - 2025
- *Award amount:* \$430,587 CAD (direct)

Discovery Grant Accelerator Supplement

Provides additional funds to support accelerator-based subatomic physics research connected to a discovery grant.

- *Award dates:* 2020 – 2023
- *Award amount:* \$120,000 CAD (direct)

US Department of Energy, Office of Science

Single-PI grant to study neutron-rich nuclei using double charge exchange and proton pickup reactions at the Texas A&M Cyclotron Institute.

- *Award dates:* Sept. 2018 – Sept. 2020
- *Award amount:* \$250,000 USD (direct)

US Department of Energy, National Nuclear Security Administration

Stockpile Stewardship Academic Alliance

Multi-PI grant to perform research in basic nuclear physics and train the next generation PhD-level nuclear science workforce.

- *Award dates:* Feb. 2018 – Feb. 2023
- *Award amount:* \$10,000,000 USD (direct; PI share \$875,000)

Pending

Canadian Foundation for Innovation (CFI)

Exotic Nuclei Active Target TPC (EXACT-TPC) – Multi-PI grant to develop a novel active target/time projection chamber for experiments at TRIUMF.

- *Requested amount:* \$768,000 CAD (direct; \$1,152,000 cost share)

SKILLS & EXPERTISE

Radiation Detectors

Expert in a wide variety of radiation detectors for γ rays, charged particles, and neutrons. Examples include organic and inorganic scintillators, Si and Ge detectors, drift and ionization chambers, and micro-channel plates.

Electronics & Data Acquisition

High level of proficiency with analogue and digital electronics for data acquisition, including development new multi-channel DAQ systems from scratch.

Programming

Extensive programming experience, in particular for data acquisition and analysis; experience with machine learning tools; knowledge of the following languages and packages: C, C++, Python, TCL, FORTRAN, ROOT, GEANT4.

Hardware

Experienced with all aspects of hardware involved in nuclear physics experiments: vacuum systems, gas handling systems, ion optics, high voltage supplies.

Other

Mentoring and teaching ability, communication and writing skills, project management, ability to work in a collaborative environment and generate ideas with colleagues, leadership ability.

TEACHING & MENTORING

Courses Taught

- PHYS 3500 – “Quantum Mechanics I” (Saint Mary’s) – Introductory course in Quantum Mechanics for undergraduates.
- PHYS 3210 – “Computational Methods” (Saint Mary’s) – Introduction to various numerical techniques to solve physics problems, using the python programming language.
- PHYS 4510 – “Subatomic Physics” (Saint Mary’s) – Upper-level undergraduate course covering the basics of nuclear and particle physics.
- PHYS 2410 – “E&M Lab” (Saint Mary’s) – Second year laboratory course covering the basics of electricity and magnetism.
- PHYS 218 – “Mechanics” (Texas A&M) – Calculus-based mechanics for science and engineering majors.
- PHYS 208 – “Electricity & Optics” (Texas A&M) – Calculus based E&M for science and engineering majors.
- PHYS 202 – “College Physics” (Texas A&M) – Non-calculus E&M for life science majors and premeds.

Curriculum Development

- Freshman labs, Texas A&M (2017 – present)
Development of new, modern and technology-based introductory mechanics and E&M labs with a focus on open inquiry, student-led projects, and experimental learning.

Mentoring

Continuing Research Staff

- Shuya Ota, Texas A&M (Assistant Research Scientist, 2019 – present)

Postdocs

- Cody Parker, Texas A&M (2018 – 2020)
- Shuya Ota, Texas A&M (2016 – 2019)

Graduate students

- Michael Roosa, PhD student, Texas A&M (2018 – present)
- James Keeble, MS student, University of Surrey (graduated 2017)
- Dustin Scriven, PhD student, Texas A&M (2017 – present)
- Stefania Dede, PhD student, Texas A&M (2016 – present)
- Eames Bennett, PhD student, Texas A&M (2016 – present)

Undergraduate students

- Minh Ryu, Honors thesis, Saint Mary's (2020 – 2021)
- Esha Rao, summer student, Texas A&M (2018)
- Jaqueline van Slycke, summer student, Texas A&M (2017)
- Zachary Elledge, summer student, Texas A&M (2016)
- Xuan Sun, Co-op student, TRIUMF (2014)
- Chris Stanford, summer student, TRIUMF (2013)

SERVICE & OUTREACH

Community Service

- *Program Advisory Committee*, Los Alamos National Lab (member, 2017)
- *Grant Review*
 - Panelist, US National Science Foundation (2017)
 - Multiple “mail in” reviews provided for the US National Science foundation and Department of Energy, Office of Science
- *Refereed Journals*
 - Nature Communications
 - Physics Letters B
 - Physical Review C
 - Nuclear Instruments and Methods A
- *Conference/Workshop Organization*
 - 14th International Conference on Nucleus-Nucleus Collisions, Whistler, BC, July 2021 (member of local organizing committee)
 - CENTAUR Neutron Detector Workshop, College Station, TX, May 2018 (sole organizer)
 - 4th International workshop on the State of the Art in Nuclear Cluster Physics (SOTANCP4), Galveston, TX, May 2018 (member of local organizing committee)
 - Texas A&M Cyclotron Institute 50th Anniversary Symposium, College Station, TX, Nov. 2017 (key member of local organizing committee)

Departmental/University Service

- *Faculty Union Liaison Committee* (Astronomy & Physics representative), Saint Mary's University (member, 2020 – present)
- *CAP Undergraduate Lecture Tour* (organizer for the Halifax talk), Saint Mary's University/Dalhousie University (2020)
- *Graduate Admissions Committee*, Texas A&M Department of Physics & Astronomy (2017 – 2019)
- *Seminar Committee* (co-chair), Texas A&M Cyclotron Institute (2016 – 2019)
- *Astrophysics Discussion Meeting* (chair), TRIUMF (2013 – 2015)

Outreach

- *Physics Festival* (annual exhibitor), Texas A&M (2016 – present)
- *Junior Research School* (annual lecturer), TRIUMF (2013 – 2015)
- *Open House* (exhibitor), TRIUMF (2013)
- *Physics of Atomic Nuclei* (lecturer), Michigan State University (2010)

PUBLICATIONS

Refereed Journals

Summary

- 44 total publications
- 11 first or second author publications, or with a leading role within a collaboration
- 16 publications with a central role within a collaboration

Complete List

1. J. Fallis, C. Akers, A. M. Laird, A. Simon, A. Spyrou, **G. Christian**, D. Connolly, U. Hager, D. A. Hutcheon, A. Lennarz, P. O'Malley, S. J. Quinn, J. Riley, A. Rojas, C. Ruiz, and M. Williams, "First measurement in the Gamow window of a reaction for the γ -process in inverse kinematics: $^{76}\text{Se}(\alpha, \gamma)^{80}\text{Kr}$ ", *Phys. Lett. B* 807, 135575 (2020), url: <https://doi.org/10.1016/j.physletb.2020.135575>
2. H. Jayatissa, G. V. Rogachev, V. Z. Goldberg, E. Koshchiy, **G. Christian**, J. Hooker, S. Ota, B. T. Roeder, A. Saastamoinen, O. Trippella, S. Upadhyayula, and E. Uberseder, "Constraining the $^{22}\text{Ne}(\alpha, \gamma)^{26}\text{Mg}$ and $^{22}\text{Ne}(\alpha, n)^{25}\text{Mg}$ reaction rates using sub-Coulomb α -transfer reactions", *Phys. Lett. B* 802, 135267 (2020), url: <https://doi.org/10.1016/j.physletb.2020.135267>
3. S. Ota, **G. Christian**, G. Lotay, W. N. Catford, E. Bennett, S. Dede, D. Doherty, S. Hallam, J. Hooker, C. Hunt, H. Jayatissa, A. Matta, M. Moukaddam, G. V. Rogachev, A. Saastamoinen, J. L. Tostevin, S. Upadhyayula, and R. Wilkinson, "Decay properties of $^{22}\text{Ne} + \alpha$ resonances and their impact on s-process nucleosynthesis", *Phys. Lett. B* 802, 135256 (2020), url: <https://doi.org/10.1016/j.physletb.2020.135256>
4. G. Lotay, P. J. Woods, M. Moukaddam, M. Aliotta, **G. Christian**, B. Davids, T. Davinson, D. T. Doherty, D. Howell, V. Margerin, and C. Ruiz,

- “High-resolution radioactive beam study of the $^{26}\text{Al}(d, p)$ reaction and measurements of single-particle spectroscopic factors”, *Eur. Phys. J. A* 56, 3 (2020), url: <http://doi.org/10.1140/epja/s10050-019-00008-8>
5. J. S. Randhawa, R. Kanungo, M. Holl, J. D. Holt, P. Navrátil, R. Stroberg, G. Hagen, G. R. Jansen, M. Alcorta, C. Andreoiu, C. Barnes, C. Burbadge, D. Burke, A. A. Chen, A. Chester, **G. Christian**, S. Cruz, B. Davids, J. Even, G. Hackman, J. Henderson, S. Ishimoto, P. Jassal, S. Kaur, M. Keefe, D. Kisiuk, R. Krücken, J. Liang, J. Lighthall, E. McGee, J. Measures, M. Moukaddam, E. Padilla-Rodal, A. Shotter, I. J. Thompson, J. Turko, M. Williams, and O. Workman, “Observation of excited states in ^{20}Mg sheds light on nuclear forces and shell evolution.”, *Phys. Rev. C* 99, 021301 (2019), url: <http://doi.org/10.1103/PhysRevC.99.021301>
 6. D. Connolly, P. D. O’Malley, C. Akers, A. A. Chen, **G. Christian**, B. Davids, L. Erikson, J. Fallis, B. R. Fulton, U. Greife, U. Hager, D. A. Hutcheon, S. Ilyushkin, A. M. Laird, A. Mahl, and C. Ruiz, “Direct measurement of resonance strengths in $^{34}\text{S}(p, \gamma)^{38}\text{Ar}$ at astrophysically relevant energies using the DRAGON recoil separator”, *Phys. Rev. C* 97, 035801 (2018), url: <http://doi.org/10.1103/PhysRevC.97.035801>
 7. **G. Christian**, G. Lotay, C. Ruiz, C. Akers, D. S. Burke, W. N. Catford, A. A. Chen, D. Connolly, B. Davids, J. Fallis, U. Hager, D. Hutcheon, A. Mahl, A. Rojas, and X. Sun, “Direct measurement of astrophysically important resonances in $^{38}\text{K}(p, \gamma)^{39}\text{Ca}$ ”, *Phys. Rev. C* 97, 025802 (2018), *Selected for an editor’s synopsis in Physics*, url: <http://doi.org/10.1103/PhysRevC.97.025802>
 8. R. Wilkinson, G. Lotay, A. Lennarz, C. Ruiz, **G. Christian**, C. Akers, W. N. Catford, A. A. Chen, D. Connolly, B. Davids, D. A. Hutcheon, D. Jedrejic, A. M. Laird, L. Martin, E. McNeice, J. Riley, and M. Williams, “Direct measurement of the key $E_{c.m.} = 456$ keV resonance in the astrophysical $^{19}\text{Ne}(p, \gamma)^{20}\text{Na}$ reaction and its relevance for explosive binary systems”, *Phys. Rev. Lett.* 119, 242701 (2017), url: <http://doi.org/10.1103/PhysRevLett.119.242701>
 9. J. Tanaka, R. Kanungo, M. Alcorta, N. Aoi, H. Bidaman, C. Burbadge, **G. Christian**, S. Cruz, B. Davids, A. Diaz Varela, J. Even, G. Hackman, M. N. Harakeh, J. Henderson, S. Ishimoto, S. Kaur, M. Keefe, R. Krucken, K. G. Leach, J. Lighthall, E. Padilla Rodal, J. S. Randhawa, P. Ruotsalainen, A. Sanetullaev, J. Smith, O. Workman, and I. Tanihata, “Halo-induced large enhancement of soft dipole excitation of ^{11}Li observed via proton inelastic scattering”, *Phys. Lett. B* 774, 268 (2017), url: <http://doi.org/10.1016/j.physletb.2017.09.079>
 10. A. Kumar, R. Kanungo, A. Calci, P. Navrátil, A. Sanetullaev, M. Alcorta, V. Bildstein, **G. Christian**, B. Davids, J. Dohet-Eraly, J. Fallis, A. T. Gallant, G. Hackman, B. Hadinia, G. Hupin, S. Ishimoto, R. Krücken, A. T. Laffoley, J. Lighthall, D. Miller, S. Quaglioni, J. S. Randhawa, E. T. Rand, A. Rojas, R. Roth, A. Shotter, J. Tanaka, I. Tanihata, and C. Unsworth, “Nuclear force imprints revealed on the elastic scattering of protons with

- ¹⁰C”, Phys. Rev. Lett. 118, 262502 (2017), url: <http://doi.org/10.1103/PhysRevLett.118.262502>
11. C. Akers, A. M. Laird, B. R. Fulton, C. Ruiz, D. W. Bardayan, L. Buchmann, **G. Christian**, B. Davids, L. Erikson, J. Fallis, U. Hager, D. Hutcheon, L. Martin, A. S. J. Murphy, K. Nelson, D. Ottewell, A. Rojas, and A. Spyrou, “Measurement of radiative proton capture on ¹⁸F and implications for oxygen-neon novae reexamined”, Phys. Rev. C 94, 065803 (2016), url: <http://doi.org/10.1103/PhysRevC.94.065803>
 12. G. Lotay, **G. Christian**, C. Ruiz, C. Akers, D. S. Burke, W. N. Catford, A. A. Chen, D. Connolly, B. Davids, J. Fallis, U. Hager, D. A. Hutcheon, A. Mahl, A. Rojas, and X. Sun, “Direct measurement of the astrophysical ³⁸K(p,γ)³⁹Ca reaction and its influence on the production of nuclides toward the end point of nova nucleosynthesis”, Phys. Rev. Lett. 116, 132701 (2016), url: <http://doi.org/10.1103/PhysRevLett.116.132701>
 13. A. Sanetullaev, R. Kanungo, J. Tanaka, M. Alcorta, C. Andreoiu, P. Bender, A. A. Chen, **G. Christian**, B. Davids, J. Fallis, J. P. Fortin, N. Galinski, A. T. Gallant, P. E. Garrett, G. Hackman, B. Hadinia, S. Ishimoto, M. Keefe, R. Krucken, J. Lighthall, E. McNeice, D. Miller, J. Purcell, J. S. Randhawa, T. Roger, A. Rojas, H. Savajols, A. Shotter, I. Tanihata, I. J. Thompson, C. Unsworth, P. Voss, and Z. Wang, “Investigation of the role of ¹⁰Li resonances in the halo structure of ¹¹Li through the ¹¹Li(p,d)¹⁰Li transfer reaction”, Phys. Lett. B 755, 481 (2016), url: <http://doi.org/10.1016/j.physletb.2016.02.060>
 14. O. S. Kirsebom, P. Bender, A. Cheeseman, **G. Christian**, R. Churchman, D. S. Cross, B. Davids, L. J. Evitts, J. Fallis, N. Galinski, A. B. Garnsworthy, G. Hackman, J. Lighthall, S. Ketelhut, P. Machule, D. Miller, S. T. Nielsen, C. R. Nobs, C. J. Pearson, M. M. Rajabali, A. J. Radich, A. Rojas, C. Ruiz, A. Sanetullaev, C. D. Unsworth, and C. Wrede, “Measurement of lifetimes in ²³Mg”, Phys. Rev. C 93, 025802 (2016), url: <http://doi.org/10.1103/PhysRevC.93.025802>
 15. W. F. Rogers, S. Garrett, A. Grovom, R. E. Anthony, A. Aulie, A. Barker, T. Baumann, J. J. Brett, J. Brown, **G. Christian**, P. A. DeYoung, J. E. Finck, N. Frank, A. Hamann, R. A. Haring-Kaye, J. Hinnefeld, A. R. Howe, N. T. Islam, M. D. Jones, A. N. Kuchera, J. Kwiatkowski, E. M. Lunderberg, B. Luther, D. A. Meyer, S. Mosby, A. Palmisano, R. Parkhurst, A. Peters, J. Smith, J. Snyder, A. Spyrou, S. L. Stephenson, M. Strongman, B. Sutherland, N. E. Taylor, and M. Thoennessen, “Unbound excited states of the N=16 closed shell nucleus ²⁴O”, Phys. Rev. C 92, 034316 (2015), url: <http://doi.org/10.1103/PhysRevC.92.034316>
 16. V. Margerin, G. Lotay, P. J. Woods, M. Aliotta, **G. Christian**, B. Davids, T. Davinson, D. T. Doherty, J. Fallis, D. Howell, O. S. Kirsebom, D. J. Mountford, A. Rojas, C. Ruiz, and J. A. Tostevin, “Inverse kinematic study of the ²⁶Al(d,p)²⁷Al reaction and implications for destruction of ²⁶Al in Wolf-Rayet and Asymptotic Giant Branch stars”, Phys. Rev. Lett. 115, 062701 (2015), url: <http://doi.org/10.1103/PhysRevLett.115.062701>

17. J. R. Tomlinson, J. Fallis, A. M. Laird, S. P. Fox, C. Akers, M. Alcorta, M. A. Bentley, **G. Christian**, B. Davids, T. Davinson, B. R. Fulton, N. Galinski, A. Rojas, C. Ruiz, N. de Séreville, M. Shen, and A. C. Shotter, “Measurement of $^{23}\text{Na}(\alpha, p)^{26}\text{Mg}$ at energies relevant to ^{26}Al production in massive stars”, *Phys. Rev. Lett.* 115, 052702 (2015), url: <http://doi.org/10.1103/PhysRevLett.115.052702>
18. M. D. Jones, Z. Kohley, T. Baumann, **G. Christian**, P. A. DeYoung, J. E. Finck, N. Frank, R. A. Haring-Kaye, A. N. Kuchera, B. Luther, S. Mosby, J. K. Smith, J. Snyder, A. Spyrou, S. L. Stephenson, and M. Thoennessen, “Further insights into the reaction $^{14}\text{Be}(\text{CH}_2, \text{X})^{10}\text{He}$ ”, *Phys. Rev. C* 91, 044312 (2015), url: <http://doi.org/10.1103/PhysRevC.91.044312>
19. Z. Kohley, T. Baumann, **G. Christian**, P. A. DeYoung, J. E. Finck, N. Frank, B. Luther, E. Lunderberg, M. Jones, S. Mosby, J. K. Smith, A. Spyrou, and M. Thoennessen, “Three-body correlations in the ground-state decay of ^{26}O ”, *Phys. Rev. C* 91, 034323 (2015), url: <http://doi.org/10.1103/PhysRevC.91.034323>
20. A. N. Kuchera, A. Spyrou, J. K. Smith, T. Baumann, **G. Christian**, P. A. DeYoung, J. E. Finck, N. Frank, M. D. Jones, Z. Kohley, S. Mosby, W. A. Peters, and M. Thoennessen, “Search for unbound ^{15}Be states in the $3n + ^{12}\text{Be}$ channel”, *Phys. Rev. C* 91, 017304 (2015), url: <http://doi.org/10.1103/PhysRevC.91.017304>
21. **G. Christian**, C. Akers, D. Connolly, J. Fallis, D. Hutcheon, K. Olchanski, and C. Ruiz, “Design and commissioning of a timestamp-based data acquisition system for the DRAGON recoil mass separator”, *Eur. Phys. J. A* 50, 75 (2014), url: <http://doi.org/10.1140/epja/i2014-14075-0>
22. J. Fallis, A. Parikh, P. F. Bertone, S. Bishop, L. Buchmann, A. A. Chen, **G. Christian**, J. A. Clark, J. M. D’Auria, B. Davids, C. M. Deibel, B. R. Fulton, U. Greife, B. Guo, U. Hager, C. Herlitzius, D. A. Hutcheon, J. José, A. M. Laird, E. T. Li, Z. H. Li, G. Lian, W. P. Liu, L. Martin, K. Nelson, D. Ottewell, P. D. Parker, S. Reeve, A. Rojas, C. Ruiz, K. Setoodehnia, S. Sjue, C. Vockenhuber, Y. B. Wang, and C. Wrede, “Constraining nova observables: Direct measurements of resonance strengths in $^{33}\text{S}(p, \gamma)^{34}\text{Cl}$ ”, *Phys. Rev. C* 88, 045801 (2013), url: <http://doi.org/10.1103/PhysRevC.88.045801>
23. Z. Kohley, **G. Christian**, T. Baumann, P. A. DeYoung, J. E. Finck, N. Frank, M. Jones, J. K. Smith, J. Snyder, A. Spyrou, and M. Thoennessen, “Exploiting neutron-rich radioactive ion beams to constrain the symmetry energy”, *Phys. Rev. C* 88, 041601 (2013), url: <http://doi.org/10.1103/PhysRevC.88.041601>
24. **G. Christian**, D. Hutcheon, C. Akers, D. Connolly, J. Fallis, and C. Ruiz, “Strength of the $E_{c.m.} = 1113$ keV resonance in $^{20}\text{Ne}(p, \gamma)^{21}\text{Na}$ ”, *Phys. Rev. C* 88, 038801 (2013), url: <http://doi.org/10.1103/PhysRevC.88.041601>
25. J. Snyder, T. Baumann, **G. Christian**, R. A. Haring-Kaye, P. A. DeYoung, Z. Kohley, B. Luther, M. Mosby, S. Mosby, A. Simon, J. K. Smith, A. Spyrou, S. Stephenson, and M. Thoennessen, “First observation of ^{15}Be ”,

- Phys. Rev. C 88, 031303 (2013), url: <http://doi.org/10.1103/PhysRevC.88.031303>
26. M. Thoennessen, **G. Christian**, Z. Kohley, T. Baumann, M. Jones, J. Smith, J. Snyder, and A. Spyrou, “Novel techniques to search for neutron radioactivity”, Nucl. Instrum. Meth. in Phys. Res. A 729, 207 (2013), url: <http://doi.org/dx.doi.org/10.1016/j.nima.2013.07.035>
 27. C. Akers, A. M. Laird, B. R. Fulton, C. Ruiz, D. W. Bardayan, L. Buchmann, **G. Christian**, B. Davids, L. Erikson, J. Fallis, U. Hager, D. Hutcheon, L. Martin, A. S. J. Murphy, K. Nelson, A. Spyrou, C. Stanford, D. Ottewell, and A. Rojas, “Measurement of radiative proton capture on ^{18}F and implications for oxygen-neon novae”, Phys. Rev. Lett. 110, 262502 (2013), url: <http://doi.org/10.1103/PhysRevLett.110.262502>
 28. M. Thoennessen, S. Mosby, N. Badger, T. Baumann, D. Bazin, M. Bennett, J. Brown, **G. Christian**, P. DeYoung, J. Finck, M. Gardner, E. Hook, B. Luther, D. Meyer, M. Mosby, W. Rogers, J. Smith, A. Spyrou, and M. Strongman, “Observation of a low-lying neutron-unbound state in ^{19}C ”, Nucl. Phys. A 912, 1 (2013), url: <http://doi.org/10.1016/j.nuclphysa.2013.05.001>
 29. S. Mosby, N. Badger, T. Baumann, D. Bazin, M. Bennett, J. Brown, **G. Christian**, P. DeYoung, J. Finck, M. Gardner, J. Hinnefeld, E. Hook, E. Lunderberg, B. Luther, D. Meyer, M. Mosby, G. Peaslee, W. Rogers, J. Smith, J. Snyder, A. Spyrou, M. Strongman, and M. Thoennessen, “Search for ^{21}C and constraints on ^{22}C ”, Nucl. Phys. A 909, 69 (2013), url: <http://doi.org/10.1016/j.nuclphysa.2013.04.004>
 30. Z. Kohley, T. Baumann, D. Bazin, **G. Christian**, P. A. DeYoung, J. E. Finck, N. Frank, M. Jones, E. Lunderberg, B. Luther, S. Mosby, T. Nagi, J. K. Smith, J. Snyder, A. Spyrou, and M. Thoennessen, “Study of two-neutron radioactivity in the decay of ^{26}O ”, Phys. Rev. Lett. 110, 152501 (2013), url: <http://doi.org/10.1103/PhysRevLett.110.152501>
 31. Z. Kohley, E. Lunderberg, P. A. DeYoung, A. Volya, T. Baumann, D. Bazin, **G. Christian**, N. L. Cooper, N. Frank, A. Gade, C. Hall, J. Hinnefeld, B. Luther, S. Mosby, W. A. Peters, J. K. Smith, J. Snyder, A. Spyrou, and M. Thoennessen, “First observation of the ^{13}Li ground state”, Phys. Rev. C 87, 011304 (2013), url: <http://doi.org/10.1103/PhysRevC.87.011304>
 32. J. K. Smith, T. Baumann, B. A. Brown, **G. Christian**, J. E. Finck, C. R. Hoffman, Z. Kohley, S. Mosby, J. F. Novak, S. J. Quinn, J. Snyder, A. Spyrou, M. J. Strongman, and M. Thoennessen, “Neutron unbound states in ^{28}Ne and ^{25}F ”, Phys. Rev. C 86, 057302 (2012), url: <http://doi.org/10.1103/PhysRevC.86.057302>
 33. Z. Kohley, J. Snyder, T. Baumann, **G. Christian**, P. A. DeYoung, J. E. Finck, R. A. Haring-Kaye, M. Jones, E. Lunderberg, B. Luther, S. Mosby, A. Simon, J. K. Smith, A. Spyrou, S. L. Stephenson, and M. Thoennessen, “Unresolved question of the ^{10}He ground state resonance”, Phys. Rev. Lett. 109, 232501 (2012), url: <http://doi.org/10.1103/PhysRevLett.109.232501>

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Conference Proceedings

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PRESENTATIONS

Invited Talks

1. American Physical Society Northwest Section, Plenary Speaker, Camloops, BC, May 2020 (*accepted invitation; cancelled due to COVID-19*)
2. Canadian Association of Physicists, Nuclear Astrophysics section, Hamilton, ON, June 2020 (*accepted invitation; cancelled due to COVID-19*)
3. “Reactions at the Texas A&M University Cyclotron Institute and Beyond”, Nuclear Physics for the Next Generation Inaugural Meeting, London, UK, Sept 2018
4. “Experiments with Radioactive Beams at the Texas A&M University Cyclotron Institute”, 25th Conference on Application of Accelerators in Research and Industry, Grapevine, TX, Aug 2018
5. “Stellar Explosions in the Lab: Measurements of Key Nuclear Reactions Driving Nucleosynthesis”, Thirteenth Conference on the Intersections of Particle and Nuclear Physics (CIPANP), Palm Springs, CA, May 2018
6. “Data Acquisition and Controls for Recoil Mass Separators”, International Workshop on Recoil Separators for Nuclear Astrophysics, Vancouver, BC Canada, Oct. 2016
7. “Direct measurements of radiative capture reactions with DRAGON”, American Physical Society Division of Nuclear Physics Annual Meeting, Santa Fe, NM, Oct. 2015
8. “Nuclear astrophysics with DRAGON”, Canadian Association of Physicists Congress, Sudbury, ON, June 2014

Seminars & Colloquia

1. “Studying stellar nucleosynthesis through heavy-ion gated transfer reactions”, Argonne National Lab Heavy Ion Discussion, Remote Presentation (Lemont, IL, USA), August 2020.

2. "Particle-gated transfer reactions: A tool to understand stellar nucleosynthesis", UK Lockdown Seminar Series, Remote Presentation (Liverpool, UK), May 2020
3. "Nuclear Reactions: From exploding stars to exotic structures", FRIB Colloquium, East Lansing, MI, April 2019
4. "Nuclear Reactions: From exploding stars to exotic structures", Saint Mary's University Colloquium, Halifax, NS, February 2019
5. "Nucleosynthesis in the lab: Direct and indirect measurements of radiative capture rates", Ohio University INPP Seminar, Athens, OH, February 2017
6. "Direct measurement of $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$ at DRAGON", Texas A&M Special Colloquium, College Station, TX, February 2015
7. "Direct measurement of $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$ at DRAGON", Los Alamos National Laboratory Special Seminar, Los Alamos, NM, February 2015
8. "Direct measurement of $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$ at DRAGON", TRIUMF Nuclear Physics Seminar, Vancouver, BC, February 2015
9. "Direct measurement of $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$ at DRAGON", Lawrence Berkeley National Laboratory Special Seminar, Berkeley, CA, October, 2014
10. "Two-neutron radioactivity and other recent results from the Modular Neutron Array", TRIUMF Colloquium, Vancouver, BC, January 2014
11. "Spectroscopy of neutron-unbound fluorine", TRIUMF Special Seminar, Vancouver, BC, May 2011

Contributed Talks

1. "Neutron Spectroscopy at TAMU", CENTAUR Neutron Detector Workshop, College Station, TX, May 2018
2. "Study of resonances in $^{19}\text{Ne}(p,\gamma)^{20}\text{Na}$ via neutron transfer to analogue states in ^{20}F ", American Physical Society Division of Nuclear Physics Annual Meeting, Vancouver, BC Canada, October 2016
3. "Determining the endpoint of nova nucleosynthesis: Direct measurement of $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$ at DRAGON", JINA-CEE Frontiers in Nuclear Astrophysics Meeting, East Lansing, MI, March 2015
4. "Direct measurement of $^{38}\text{K}(p,\gamma)^{39}\text{Ca}$ at DRAGON", American Physical Society Division of Nuclear Physics Meeting, Waikaloa Village, HI, October 2014
5. "Spectroscopy of neutron-unbound fluorine", American Physical Society Spring Meeting, Anaheim, CA, May 2011
6. "Spectroscopy of neutron-unbound fluorine isotopes", American Physical Society Division of Nuclear Physics Meeting, Santa Fe, NM, November 2010