

	APEX Mini Grant for Experiential Learning College of Wooster, Wooster, OH Received \$1,115 – one-third of college-wide APEX Mini Grant funding during term – to take Nuclear Physics class students to NSCL to see large-scale nuclear physics research firsthand.	March 2015
	Future Academic Scholars in Teaching (FAST) Fellow Michigan State University, East Lansing, MI Chosen by the MSU Graduate School and Center for the Integration of Research Teaching and Learning (CIRTL) Steering Committee to participate in a mentored teaching program with a focus on investigating how Modern Physics is taught.	2013 to 2014
	College of Natural Science Summer Dissertation Completion Fellowship , Michigan State University, East Lansing, MI	2013 to 2014
	NSCL Summer Dissertation Completion Fellowship National Superconducting Cyclotron Laboratory, East Lansing, MI	2013 to 2014
	Physics Department Writing Prize Wabash College, Crawfordsville, IN	May 2009
	Harold Q Fuller Prize in Physics: Top Junior Major Wabash College, Crawfordsville, IN	April 2008
PROFESSIONAL WORKSHOPS & SCHOOLS	Gonzaga Center for Teaching and Advising Course Design Institute Gonzaga University, Spokane, WA	Spring 2017
	Active Targets & Time Projection Chambers for Nuclear Physics Experiments Workshop Michigan State University, East Lansing, MI	May 2015
	TALENT Course 6: Theory for Exploring Nuclear Reactions Experiments Grand Accélérateur National d'Ions Lourds (GANIL), Caen, France	July 2013
	FN Tandem Van de Graaff Accelerator Operator's School Nuclear Science Laboratory, University of Notre Dame, South Bend, IN	February 2013
	Second UIO-MSU-ORNL School on Nuclear Physics Michigan State University, East Lansing, MI	January 2011
ACADEMIC & COMMUNITY SERVICE	Gonzaga University, Spokane, WA <ul style="list-style-type: none"> • Academic Technology Advisory Council, Faculty Rep. • Radiation Safety Officer • Physics Journal Club, Initiator and Faculty Moderator • Society of Physics Students, Faculty Moderator • Nuclear Physics DC Day Participant, Washington DC 	2017 to Present 2016 to Present 2015 to Present 2015 to 2017 May 22, 2017
	American Physical Society <ul style="list-style-type: none"> • Conference Experience for Undergraduates Review Comm. Member • 2016 APS April Meeting, Session Chair • 2015 Fall Meeting of APS DNP, Session Chair • DNP Education Committee, Inaugural Graduate Student Rep. 	2016 to Present April 17, 2016 October 30, 2015 2013 to 2014

- The College of Wooster**, Wooster, OH
- Colloquium Coordinator 2014 to 2015
- Michigan State University**, East Lansing, MI
- NSCL Tour Guide 2010 to 2014
 - Graduate Student and REU Student Mentor 2011 to 2014
 - Graduate Recruitment Committee Rep. 2012 to 2014
 - Sub-Committee on Revisions to Graduate Curriculum Rep. 2012 to 2013
 - Nuclear Physics DC Day Participant, Washington DC May 6, 2013
 - NSCL Seminar Committee Rep. 2011 to 2012
 - NSCL Outreach Committee Rep. 2010 to 2011
 - Physics of Atomic Nuclei (PAN) Program Volunteer 2009 to 2011

AFFILIATIONS & MEMBERSHIPS

The Active-Target Time-Projection Chamber Collaboration
 American Association of Physics Teachers
 American Physical Society
 Council on Undergraduate Research
 Joint Institute for Nuclear Astrophysics Center for the Evolution of the Elements

COURSES TAUGHT

Gonzaga University, Spokane, WA

- Scientific Physics I, Lecture and Lab
- Scientific Physics II, Lecture and Lab
- Science Inquiry: Scientific Truth & Method
- General Physics II Lab
- Computational Physics
- Nuclear and Particle Physics

- The College of Wooster**, Wooster, OH
- Algebra Physics II, Lecture and Lab
 - Modern Physics
 - Electronics, Lecture and Lab
 - Nuclear Physics

UNDERGRADUATE RESEARCH STUDENTS

Henry Thurston, Gonzaga University Summer 2017

- Project Title: TBA

Joey Gutierrez and Jourden Simmons, Gonzaga University Summer 2016

- Joint Project Title: “Monte Carlo Acceptance Simulations for the Prototype AT-TPC”
- Presented Poster at 2016 Fall Meeting of APS DNP, October 14, 2016 and at Murdock College Science Research Conference, November 4, 2016

Michael Wolff, College of Wooster Spring & Summer 2015

- Sophomore Research Assistant Project, Spring: “Calculations for Resonant α Scattering of He Isotopes”
- Sophomore Research Assistant Project, Summer: “Measurement of Gain and Drift Velocity of the Prototype AT-TPC”
- Presented Summer Poster at 2015 Fall Meeting of APS DNP, October 29, 2015

Nicolae Istrate, College of Wooster 2014 to 2015

- Senior Thesis with Honors: “Theoretical Resonance Calculations for the Isobaric Analogs ^{133}Sn and ^{133}Sb ”
- Presented Poster at Senior Research Symposium, April 24, 2015

Min Sung Kim, College of Wooster 2014 to 2015

- Senior Thesis: “Stopping Power Analysis of ^{37}K , ^{44}Cl , and ^{71}Br Incident on a He:CO₂ (9:1) Gas Target”
- Presented Poster at Senior Research Symposium, April 24, 2015

Johanna Malaer, College of Wooster Spring 2015

- Junior Thesis: “Strong Gravitational Lensing and The Shell Theorem”
- Presented Talk at Junior Independent Study Physics Colloquium, April 28, 2015

Diego Miramontes Delgado, College of Wooster Spring 2015

- Junior Thesis: “Binding Energy Changes in Big Bang Nucleosynthesis and their effect on the Shape of the Universe”
- Presented Talk at Junior Independent Study Physics Colloquium, April 28, 2015

Michael Bush, College of Wooster Fall 2014

- Junior Thesis: “Impact of the Gravitational Force on Star Formation”
- Presented Talk at Junior Independent Study Physics Colloquium, Dec. 2, 2014

PEER-REVIEWED
PUBLICATIONS

UNDERLINE DENOTES
UNDERGRADUATE
RESEARCH STUDENT

19. **A Fritsch**, Y Ayyad, D Bazin, S Beceiro-Novo, J Bradt, L Carpenter, M Cortesi, W Mittig, D Suzuki, T Ahn, JJ Kolata, AM Howard, FD Becchetti, M Wolff, “Search for α -Cluster Structure in Exotic Nuclei with the Prototype Active-Target Time-Project Chamber,” JPS Conf. Proc. **14**, 021105 (2017).
18. D Suzuki, T Ahn, D Bazin, FD Becchetti, S Beceiro-Novo, **A Fritsch**, JJ Kolata, W Mittig, for the AT-TPC Collaboration, “Cluster structure of neutron-rich ^{10}Be and ^{14}C via resonant alpha scattering,” Il Nuovo Cimento **39 C**, 372 (2017).
17. JJ Kolata, AM Howard, W Mittig, T Ahn, D Bazin, FD Becchetti, S Beceiro-Novo, Z Chajecski, M Febbraro, **A Fritsch**, WG Lynch, A Roberts, A Shore, RO Torres-Isea, “Fusion studies with low-intensity radioactive ion beams using an active-target time projection chamber,” *NIM A*, 830, 82-87 (2016).
16. T Ahn, DW Bardayan, D Bazin, S Beceiro Novo, FD Becchetti, J Bradt, M Brodeur, L Carpenter, Z Chajecski, M Cortesi, **A Fritsch**, MR Hall, O Hall, L Jensen, JJ Kolata, WG Lynch, W Mittig, P O’Malley, D Suzuki, “The Prototype Active-Target Time-Projection Chamber used with *TwinSol* Radioactive-Ion Beams,” *NIM B*, 376, 321-325 (2016).
15. **A Fritsch**, S Beceiro-Novo, D Suzuki, W Mittig, JJ Kolata, T Ahn, D Bazin, FD Becchetti, B Bucher, Z Chajecski, X Fang, M Febbraro, AM Howard, Y Kanada-En’yo, WG Lynch, AJ Mitchell, M Ojaruega, AM Rogers, A Shore, T Suhara, XD Tang, R Torres-Isea, H Wang, “One-dimensionality in atomic nuclei: a candidate for linear-chain α clustering in ^{14}C ,” Phys. Rev. C, **93**, 014321 (2016).
14. W Mittig, S Becerio, **A Fritsch**, F Abu-Nimeh, D Bazin, T Ahn, WG Lynch, F Montes, A Shore, D Suzuki, N Usher, J Yurkon, JJ Kolata, A Howard, AL Roberts, XD Tang, FD Becchetti, “Active Target Detectors for Studies with Exotic Beams: Present and Next Future,” *NIM A*, 784, 494-498 (2015).
13. D Suzuki, A Shore, W Mittig, JJ Kolata, D Bazin, M Ford, T Ahn, FD Becchetti, S Beceiro Novo, D Ben Ali, B Bucher, J Browne, X Fang, M Febbraro, **A Fritsch**, E Galyaev, AM Howard, N Keeley, WG Lynch, M Ojaruega, AL Roberts, XD Tang, “Resonant α scattering of ^6He : Limits of clustering in ^{10}Be ,” Phys. Rev. C **87**, 054301 (2013).
12. D Suzuki, M Ford, D Bazin, W Mittig, WG Lynch, T Ahn, S Aune, E Galyaev, **A Fritsch**, J Gilbert, F Montes, A Shore, J Yurkon, JJ Kolata, J Browne, A Howard, AL Roberts, XD Tang, “Prototype AT-TPC: Toward a new generation active target time projection chamber for radioactive beam experiments,” *NIM A*, 691, 39-54 (2012).
11. D. Suzuki, D. Bazin, W. Mittig, W.G. Lynch, C. Hewko, A. Roux, D. Ben Ali, J. Browne, E. Galyaev, M. Ford, **A. Fritsch**, J. Gilbert, F. Montes, A. Shore, G. Westfall, J. Yurkon, “Test of a micromegas detector with helium-based gas mixtures for active target time projection chambers utilizing radioactive isotope beams,” *NIM A*, 660 (1), 64-68 (2011).
10. A Schuh, **A Fritsch**, JQ Ginepro, M Heim, A Shore, M Thoennesen, “Discovery of the Silver Isotopes,” *Atomic Data and Nuclear Data Tables*, 96 (5), 531-540 (2010).
9. A Shore, **A Fritsch**, M Heim, A Schuh, M Thoennesen, “Discovery of the Vanadium Isotopes,” *Atomic Data and Nuclear Data Tables*, 96 (4), 351-357 (2010).
8. M Heim, **A Fritsch**, A Schuh, A Shore, M Thoennesen, “Discovery of the Krypton Isotopes,” *Atomic Data and Nuclear Data Tables*, 96 (4), 333-340 (2010).
7. **A Fritsch**, JQ Ginepro, M Heim, A Schuh, A Shore, M Thoennesen, “Discovery of the Tungsten Isotopes,” *Atomic Data and Nuclear Data Tables*, 96 (3), 315-322 (2010).

6. A Schuh, **A Fritsch**, JQ Ginepro, M Heim, A Shore, M Thoennesen, “Discovery of the Gold Isotopes,” *Atomic Data and Nuclear Data Tables*, 96 (3), 307-314 (2010).
5. A Shore, **A Fritsch**, M Heim, A Schuh, M Thoennesen, “Discovery of the Arsenic Isotopes,” *Atomic Data and Nuclear Data Tables*, 96 (3), 299-306 (2010).
4. A Schuh, **A Fritsch**, M Heim, A Shore, M Thoennesen, “Discovery of the Iron Isotopes,” *Atomic Data and Nuclear Data Tables*, 96 (6), 817-823 (2010).
3. A Shore, **A Fritsch**, JQ Ginepro, M Heim, A Schuh, M Thoennesen, “Discovery of the Barium Isotopes,” *Atomic Data and Nuclear Data Tables*, 96 (6), 749-758 (2010).
2. G Christian, WA Peters, D Absalon, D Albertson, T Baumann, D Bazin, E Breitbach, J Brown, PL Cole, D Denby, PA DeYoung, JE Finck, H Frank, **A Fritsch**, C Hall, AM Hayes, J Hinnefeld, CR Hoffman, R Howes, B Luther, E Mosby, S Mosby, D Padilla, PV Pancella, G Peaslee, WF Rogers, A Schiller, MJ Strongman, M Thoennesen, LO Wagner, “Production of Nuclei in Neutron Unbound States via Primary Fragmentation of ^{48}Ca ,” *Nucl. Phys. A* **801** 101 (2008).
1. JJ Kolata, H Amro, FD Becchetti, JA Brown, PA DeYoung, M Hencheck, JD Hinnefeld, GF Peaslee, **AL Fritsch**, C Hall, U Khadka, PJ Mears, P O’Rourke, D Padilla, J Rieth, T Spencer, T Williams, “Breakup of ^6He Incident on ^{209}Bi Near the Coulomb Barrier,” *Phys. Rev. C* **75**, 031302(R) (2007).

SEMINARS &
CONFERENCE
PRESENTATIONS

UNDERLINE DENOTES
UNDERGRADUATE
RESEARCH STUDENT

26. A Fritsch, February 1, 2017. **Invited seminar.** *Search for α -cluster Structure in Exotic Nuclei with the Prototype AT-TPC*, Reed College, Portland, OR.
25. A Fritsch, June 27, 2016. **Invited seminar.** *Studies in α -Cluster Structure with the Active Target-Time Projection Chamber (AT-TPC)*, Hokkaido University, Sapporo, Japan.
24. A Fritsch, June 21, 2016. Poster: *Search for α -Cluster Structure in Exotic Nuclei with the Prototype Active Target Time Projection Chamber*. Nuclei in the Cosmos XIV, Niigata, Japan. **Symposium Best Poster Award Winner.**
23. A Fritsch, April 23, 2016. *Secrets of the Atomic Nucleus*, Gonzaga Faculty Neighborhood Cafe, Gonzaga University, Spokane, WA.
22. A Fritsch, Y Ayyad, D Bazin, S Beceiro-Novo, J Bradt, L Carpenter, M Cortesi, W Mitig, D Suzuki, T Ahn, AM Howard, JJ Kolata, FD Becchetti, April 17, 2016. *Search for α -Cluster Structure in Exotic Nuclei with the Prototype Active-Target Time-Projection Chamber*, 2016 American Physical Society April Meeting, Salt Lake City, UT.
21. A Fritsch, Y Ayyad, D Bazin, S Beceiro-Novo, J Bradt, W Mitig, T Ahn, A. Howard, JJ Kolata, F Becchetti, M Wolff, October 29, 2015. *3-Body Decay of Cluster States in ^{14}C* , 2015 Fall Meeting of the American Physical Society Division of Nuclear Physics, Santa Fe, NM.
20. A Fritsch, July 22, 2015. *From Graduate School to College: Pursing a Career at a Primarily Undergraduate Institution*, Joint Physics Graduate Organization & Women and Minorities in Physics Seminar, Michigan State University, East Lansing, MI.
19. A Fritsch, May 19, 2015. *One-dimensional alignment of α particles in atomic nuclei*, Active Targets & Time Projection Chambers for Nuclear Physics Experiments Workshop, National Superconducting Cyclotron Laboratory, East Lansing, MI.
18. A Fritsch, March 20, 2015. **Invited seminar.** *One-dimensional alignment of α particles in atomic nuclei*, Physics Colloquium Series, Kenyon College, Gambier, OH.
17. A Fritsch, March 17, 2015. **Invited seminar.** *One-dimensional alignment of α particles in atomic nuclei*, Gonzaga University, Spokane, WA.
16. A Fritsch, February 12, 2015. **Invited seminar.** *One-dimensional alignment of α particles in atomic nuclei*, University of Dallas, Irving, TX.
15. A Fritsch, December 15, 2014. **Invited seminar.** *One-dimensional alignment in atomic nuclei*, University of Scranton, Scranton, PA.
14. A Fritsch, October 16, 2014. **Invited seminar.** *Nuclear Alpha Clustering & Statistics on Students in Physics*, Physics Colloquium Series 2014-2015, The College of Wooster, Wooster, OH.
13. A Fritsch, S Beceiro-Novo, D Suzuki, W Mitig, T Ahn, D Bazin, Z Chajecski, W Lynch, A Shore, J Kolata, A Howard, A Roberts, X Tang, F Becchetti, October 11, 2014. *Search for Cluster Structure in ^{14}C by Investigation of $^{10}\text{Be} + ^4\text{He}$ Resonant Scattering with the Prototype AT-TPC*, Fourth Joint Meeting of the Nuclear Physics Divisions of the American Physical Society and the Physical Society of Japan, Hilton Waikaloa Village, Hawaii.
12. A Fritsch, May 7, 2014. *How can clicker questions be implemented in a lecture for improved learning in Modern Physics?* Future Academic Scholars in Teaching (FAST) Fellowship Program Symposium, Michigan State University, East Lansing, MI.
11. A Fritsch, March 24, 2014. *The Search for Cluster Structure in ^{14}C with the Prototype AT-TPC*, NSCL, Graduate Student Seminar, National Superconducting Cyclotron Laboratory, East Lansing, MI.

10. A Fritsch, March 20, 2014. **Invited seminar.** *The Search for Cluster Structure in ^{14}C with the Prototype AT-TPC*, NSCL Research Discussion Seminar, National Superconducting Cyclotron Laboratory, East Lansing, MI.
9. A Fritsch, March 4, 2014. **Invited seminar.** *Pushing the Envelope of Science: Exploring Nature on the Nuclear Scale*, Wabash College, Crawfordsville, IN.
8. A Fritsch, February 24, 2014. **Invited seminar.** *Pushing the Envelope of Science: Exploring Nature on the Nuclear Scale*, The College of Wooster, Wooster, OH.
7. A Fritsch, D Suzuki, W Mittig, T Ahn, D Bazin, F Becchetti, Z Chajecki, J Kolata, A Howard, W Lynch, A Roberts, A Shore, X Tang, October 24, 2013. *Search for Cluster Structure in ^{14}C by Investigation of $\alpha(^{10}\text{Be}, ^{10}\text{Be}^*)\alpha'$ Scattering with the Prototype AT-TPC*, 2013 Fall Meeting of the American Physical Society Division of Nuclear Physics, Newport News, VA.
6. A Fritsch, M Heim, T Baumann, S Mosby, A Spyrou, M Thoennessen, January 30, 2009. Poster: *Geant4 Simulation of MoNA*. Celebration of Student Research, Wabash College.
5. A Fritsch, S Krutz, T Pizarek, M Madsen, January 30, 2009. Poster: *Band Gap Energies of Silicon and Germanium*. Celebration of Student Research, Wabash College.
4. A Fritsch, M Heim, T Baumann, S Mosby, A Spyrou, M Thoennessen, October 24, 2008. Poster: *Geant4 Simulation of MoNA*. 2008 Annual Fall Meeting of the American Physical Society Division of Nuclear Physics, Conference Experience for Undergraduates (CEU) Poster Session, Oakland, California.
3. A Fritsch, September 24, 2008. *MoNA: The Modular Neutron Array*. Wabash College Physics Colloquium.
2. A Fritsch, T Pizarek, K Prifogle, S Shrestha, M Madsen, January 26, 2007. Poster: *The Circular Motion of an Electron Beam in Real Helmholtz Coils*. Celebration of Student Research, Wabash College.
1. A Fritsch, P O'Rourke, J Brown, for the MoNA Collaboration.; January 26, 2007. Poster: *Nuclear Physics at the National Superconducting Cyclotron Laboratory (NSCL) with the Modular Neutron Array (MoNA)*. Celebration of Student Research, Wabash College.