

# **Samuel Glasstone Award Report 2018-2019**

American Nuclear Society



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This report was done under the supervision of Dr. Christopher Perfetti. Edited by Ira Strong and Lauren Crabtree, from April 27th to May 8th of 2019.

\*The cover picture is the UNM Farris Engineering Center. The renovated building houses the School of Engineering departments of Chemical and Biological Engineering, Computer Science and Nuclear Engineering. The renovation utilizes the original concrete structural skeleton of the original building. The entire project has more than an 85 percent recycling rate for construction waste management. Upon entering the Farris Engineering Center, the most notable difference is the natural light that was almost nonexistent in the 1967 Brutalist building. Electrochromic glazing wraps the building envelope and electronically darkens and lightens to manage solar radiation without impeding the vast views of the campus and the surrounding City of Albuquerque. This high-tech glazing is the first of its kind on the UNM campus, making for an energy efficient and comfortable interior environment.

*Report released on May 8th, 2019*



## Contents

<b>1</b>	<b>Introduction</b>	<b>5</b>
<b>2</b>	<b>Section Management</b>	<b>7</b>
2.1	Executive Committee	7
2.2	Executive Committee Members	8
2.3	Operations	10
2.4	Financial Planning	11
2.5	Moving Forward	11
<b>3</b>	<b>Public Information</b>	<b>13</b>
3.1	List of Events	13
3.2	Departmental Events	25
3.3	Detailed Events	27
3.3.1	Outreach: Girl Scouts 2018	27
3.3.2	Outreach: Nuclear Science Week 2018	29
3.3.3	Outreach: Art of Science 2019	29
3.3.4	Outreach: Math Moves You	32
3.3.5	Info Sessions: INL, Oak Ridge & PVNGS	32
3.3.6	Policy: ANS and INMM Nuclear Policy Day 2019	33
3.3.7	Field Trip: Los Alamos New Mexico 2019	34
3.3.8	Conference: ANS Winter Meeting 2018	35
3.3.9	Conference: ANS Student Conference 2019	36
3.3.10	Social: Palo Verde Isotopes Game	37

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3.4	Letters of Support	38
4	Appendix .....	41
4.1	Events Flyers	41



# 1. Introduction

*"Leadership really comes down to two fundamental things and if you get them right, then you're 80 percent of the way there. The first one is establishing the vision for a team; the second one is establishing a culture for your organization that helps contribute to mission success."*

- Jake Wood (Co-founder and CEO at Team Rubicon)

The American Nuclear Society Student Section of The University of New Mexico, (ANS UNM) embarked itself in a profound change on the Summer of 2017, Melissa Moreno and Gemma (Ira) Strong both undergraduates in Nuclear Engineering, decided to become the chairs of the student section of ANS UNM. The initial goal was to be able to apply to the Samuel Glasstone Award, and they decided to create a plan to comply with the seven service areas to back this goal. Those areas provide the backbone of how we organize and make decisions in our organization. These areas are: Public Information, Community/Public Service, University Service, Professional Development, ANS/Nuclear Industry Support, Social Events, and Section Management.

Therefore, we created an executive board that was going to be able to comprise and fulfill all the activities described in the Glasstone Award criteria. These are the positions we utilize to accomplish this: President, Vice-President, Treasurer, Internal Communications Officer, External Communications Officer, Professional Development Officer, Outreach Officer, Secretary, and Graduate Student Representative. The Executive Board Committee of 2018-2019 came to the conclusion that a new position needed to be added, and they decided to create a new executive position: Nuclear Policy Representative.

In addition to our seven goals established by ANS National, we wanted to embark on a new adventure this year, to incorporate the history of nuclear in New Mexico into our section. As the nuclear industry continues to march forward with new technology and new advancements, we at ANS UNM want to remind our members and our national nuclear community about our past and where we came from. ANS UNM has been a student section for over 50 years now, and in that time much has changed in the world and in New Mexico. However, one thing hasn't changed, that New

Mexicans have been a part of nuclear history since the very beginning. Our student section has a unique opportunity be involved in this history and we wanted to encourage and proliferate that into the future.

In previous years the ANS UNM Student Section remained active but not at a national level, but since the Summer of 2017 we have decided to make a mark and show how much the University of New Mexico, students, faculty and staff have to offer to the American Nuclear Society and the nuclear industry as a whole. Additionally, the University of New Mexico maintains close ties with the ANS Trinity Professional Section, and due to the proximity to the labs, UNM has faculty in positions at Los Alamos National Laboratory and Sandia National Laboratory. This gives the students and ANS members access to the labs and its people. It is with great honor that we apply for the second time in a row for the Samuel J. Glasstone Award.



## 2. Section Management

### 2.1 Executive Committee

Leadership is an important function of management which helps to maximize efficiency and achieve organizational goals. This year again, the American Nuclear Society at the University of New Mexico, had an executive committee that was very dedicated to growing ANS membership and community involvement; maintaining the same quantity and quality of work, by working closely within the student organization. Unlike previous years, the ANS-UNM executive board committee increased its number of members to be able to meet its organizational goals in a growing department.

This academic year 2018-2019 we were focusing on planning for leadership continuity. Planning for and building leadership continuity involves making investments in the capacity and skills of the individuals within our student section. Our previous student section President was committed to this continuity by becoming the next Member-at-Large for the 2018-2019 school year. We implemented this strategy this academic year, and it worked perfectly, therefore we are planning to install this policy into our bylaws to ensure continuity to our future projects in the coming years.

In successful organizations this works all the time, especially when there is an impending leadership transition. If we are going to be prepared for the unexpected, and if student sections are going to successfully meet the evolving needs and goals of their members and the communities they serve, then leadership must be instilled at every level of the organization, not just at the top. Successful succession planning, or leadership continuity, depends greatly upon having a talent strategy that encompasses in-house training, how people are recognized and rewarded—and for what—and how they learn and grow in the executive board on a daily/weekly basis. Without these crucial elements, the student section would not be nearly as successful as it has been this past year.



Figure 2.1: ANS-UNM Executive Committee 2018-2019

## 2.2 Executive Committee Members

This year's executive board was made up of 13 positions. Each position is detailed below, along with the board member that filled that role in the 2018-2019 school year:

### *Lauren Crabtree, President*

Lauren is a Junior studying Nuclear Engineering, with a minor in Mathematics. In high school, she was the Captain of Academic Decathlon team for 2 years in a row and she was the President of the National English Honors Society. She also participated in other organizations such as the National Honor Society and Math National Honors Society. At UNM she became a member of Society of Women Engineers, and she is a Co-President and founder of oSTEM@UNM, an organization committed to the LGBTQ+ community in STEM. She became involved in the UNM-ANS student section her freshman year of college.

### *Dustin Dealy, Vice-President*

Dustin is a Junior studying Nuclear Engineering, with a minor in Mathematics. He became involved in ANS in his sophomore year.

### *Benjamin Houldridge, Treasurer*

Ben is a Sophomore studying Nuclear Engineering. He is been the Treasurer for the past two years, and he has been involved in the ANS-UNM Executive Committee since his freshman year.

### *Ira Strong, Member-At-Large*

Ira is a Junior studying Nuclear Engineering, with a minor in Mathematics and Chicana Studies. She has been involved with ANS National, Local, and Professional section since March 2016. She

was the previous UNM-ANS President (Executive Committee 2017-2018). In April 2018 She was awarded the American Nuclear Society, Commendation for Service and Leadership 2017 - 2018, at the ANS Student Conference 2018 in Gainesville, FL. She was awarded the University of New Mexico Leadership & Involvement Award, in February of this year. Currently she is the Co-Chair for the ANS Student Section Committee, and member of the ANS Diversity and Inclusion Committee.

*John-Ryan Romo, Secretary*

John-Ryan is a Sophomore studying Nuclear Engineering and became involved in the Executive Committee this year.

*Michael Tanguay, Secretary*

Michael is a Sophomore studying Nuclear Engineering and became involved in the Executive Committee this year.

*Matthew Gervasi, Internal Communications Officer*

Matthew is a Sophomore studying Nuclear Engineering, He has been involved at the ANS Executive Committee since August of 2017.

*Mekiel Olguin, External Communications Officer*

Mekiel is a Sophomore studying Nuclear Engineering and became involved in the Executive Committee this year.

*Yuqi Liu, External Communications Officer*

Yuqi is a Ph.D. student in the Nuclear Engineering Department and became involved in the Executive Committee this year.

*Bobbie Merryman, Nuclear Policy Officer*

Bobbie is a Ph.D. student in the Nuclear Engineering Department. She is a great advocate for Nuclear Policy and works closely with Generation Atomic to keep the ANS student body informed about the different nuclear policy news. Bobbi became involved in the Executive Committee when she was an undergraduate at UNM.

*Carl Willis, Outreach Coordinator*

Carl is an instructor and reactor operator at the University of New Mexico since 2017, and applied nuclear physics is his core passion. His vocational pursuits include building apparatuses for producing and detecting nuclear reactions and collecting radioactive items. He is an administrator and decade-plus participant on the Open Source Fusor Research Consortium discussion board catering to amateur nuclear fusion projects. He is a great inspiration to students and he is always highly

motivated to carry out outreach events about nuclear technology and engineering.

*Chris Perfetti, UNM-ANS Faculty Advisor*

The Faculty Advisor for ANS UNM is there to provide the chapter with advice and act as a liaison between the organization and the department. Often, the faculty advisor retains his position for many years, so they can provide valuable information to the organization, as the Executives and Chairs often are served by new people every year. This year, the Faculty Advisor is Dr. Christopher Perfetti, he became the new UNM-ANS advisor in June 2018. He is a new Assistant Professor at the University of New Mexico. His positive energy and genuine interest for his students has being the key to keep the student section motivated, we hope to have him as the UNM-ANS Faculty Advisor for many years to come.

## 2.3 Operations

The ANS-UNM Student Section attributes success to the implementation of administrative procedures which ensured a smooth operations section. As we initially planned since the Summer of 2017, the idea was to create procedures and create necessary documentation to support the incoming Executive Committee. These documents, processes, and lessons learned are provided to the incoming Executive Board to create a more complete picture on how to run the student section more efficiently. The idea is that each year the Executive Committee will have the ability to put their input in the President's Handbook to give suggestions, tips, best practices and lessons learned to improve the efficiency of the student section each year.

In our manuals we describe how we approve expenditures, how to run meetings and we strongly encourage to use the Robert's Rules of Order in the Executive Meetings. We have a strong internal control system and we rely on supporting documentation to detail the basis for decision making. Documentations include: Agenda, Minutes, Manual for Outreach Events, Purchase Requisition, and anything that has to do with how we run the day to day student section. All this information is stored in a cloud, and it is shared with all the members of the committee.

One of the most important aspects to successful running of the operations for the student section is to plan ahead. For the last two summers we have worked in creating a year-round plan ahead of time. This is to ensure that we will be able to obtain the resources that we need in order to meet our goals. Therefore, investing a significant amount of time during the summer to plan the year is the best option. During this time, we create the calendar, the budget, and we dedicate some time to organize our physical and electronic files.

## 2.4 Financial Planning

<b>Section Funding Source</b>	<b>Amount</b>
UNM Nuclear Engineering Department	\$2,500.00
Section Dues	\$200.00
UNM School School of Engineering	\$1,775.00
UNM Student Government Association	\$950.00
ANS Trinity Professional Section Donation	\$3,250.00
UNM ANS Chipotle Fundraising	\$100.00
UNM Society of Women Engineers Donation	\$300.00
Los Alamos Tour Fees	\$150.00
UNM INMM Student Chapter Donation	\$100.00
Total Section Funding	\$9,325.00
<b>Authorized Section Expenditures</b>	<b>Amount</b>
ANS Winter Meeting	\$3,500.00
ANS Student Conference	\$4,000.00
ANS and NE Department Tutoring Hours	\$310.00
ANS UNM General Meetings	\$450.00
Girl Scout Extravaganza!	\$150.00
ANS and INMM Fall BBQ	\$200.00
Trinity Test Site Tour	\$30.00
Movie Nights and Screenings/ Socials	\$140.00
Art of Science Outreach	\$250.00
Math Movies You Outreach	\$35.00
Miscellaneous Events	\$10.00
Total Section Expenditures	\$9,075.00
Total Section Earnings from Fundraising for Next Fiscal Year	\$250.00
Balance	\$500.00
<i>ANS UNM Student Conference Application 2021</i>	
Savings Account (Current)	\$5,181.89
SGAO PB Funds (Current)	\$2,484.15

Table 2.1: Table about UNM ANS Section Financial Expenses and Balances

## 2.5 Moving Forward

To be able to continue the efforts of the ANS UNM student section, we have created the President's Handbooks which also contains information for the rest of the officers, along with tips and best practices. We made these handbooks to continue the success of the President and the Officer's into the future executive board committee. Besides that, we created a SharePoint drive back in the Summer of 2017, where we added files for online team collaborations and content management. We upload all our files there and everybody from the ANS UNM Executive Committee can access those files. All this information will serve as an aid to follow the best practices for the student section management.

In terms on what to do next and move forward as a society we are planning on putting all our

efforts together to apply this year for the ANS Student Conference. We have already formed a sub-committee that will be available to participate in planning until 2021 and we have secured their availability until then in case we are awarded the bid for the Student Conference.



### 3. Public Information

#### 3.1 List of Events

In this section we detail and summarize of all the events hosted by the ANS UNM Student Section during the Fall 2018 and Spring 2019 semesters.

FALL 2018 EVENTS					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>Summer Executive Board Planning Meetings</i> – Officer meetings to plan the events and budget for the 2018-2019 school year and train new officers on their duties	May 19th, June 2nd, June 9th, June 16th, June 23rd, June 30th, July 7th, July 14th, July 21st, July 28th, August 4th, August 11th, August 30th, 2018	7 undergraduate members, 4 graduate members, 1 faculty member	Section Management: Meeting Planning	—	\$0
<i>ANS Trinity Executive Board Meeting</i> – Students meeting with the ANS Trinity Executive Board to plan local section events and seminars.	August 28th, October 20th, 2018	2 undergraduate members, 7 professionals	ANS/Nuclear Industry Support: ANS Local Section	—	\$0

continue...					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>Isotopes Baseball Game with Palo Verde</i> – Students attending a local baseball game with Palo Verde employees.	August 27th, 2018	11 undergraduate members, 5 graduate members, 4 professionals	Social Events: Athletics	—	\$0
<i>ANS and NE Department Tutoring Hours</i> – NE Graduate students tutoring undergraduate students from the department on nuclear engineering classes and mathematics courses.	August 29th, September 5th, September 12th, September 19th, September 26th, October 3rd, October 10th, October 17th, October 24th, October 31st, November 7th, November 14th, November 21st, November 28th, December 5th, December 12th, December 19th, 2018	15-30 undergraduate members, and 12 graduate members	University Service	408 hours	\$170.00
<i>First Fall General Member Meeting</i> – Informing members about upcoming events and having a presentation from new faculty member Dr. Perfetti on his research topics.	September 6th, 2018	20 undergraduate members, 3 graduate members	ANS/Nuclear Industry Support	—	\$50
<i>Girl Scout Girl Extravaganza!</i> – Members informing the public about the nuclear industry and helping Girl Scouts receive their Get to Know Nuclear Badge.	September 8th, 2018	17 undergraduate members, 3 graduate members, 150 girl scouts	Community/Public Service: Girl Scout Merit Badge	8 hrs	\$150

continue...					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>Palo Verde Information Session</i> – Palo Verde Professionals informing students on internship opportunities and the nuclear power industry.	September 11th, 2018	20 undergraduate members, 4 graduate members	Professional Development: Career Opportunities Seminar	—	\$0
<i>UNM Engineering Career Fair</i> – Student attending a University sponsored career fair which included INL, LANL, and Sandia National Labs as well as Palo Verde industry leaders.	September 12th, 2018	40 undergraduate members, 10 graduate members	Professional Development and Public Information	—	\$0
<i>Idaho National Lab Information Session</i> – Networking and information session on job opportunities and internships at INL.	September 13th, 2018.	35 undergraduate members, 5 graduate members, 5 faculty members.	Professional Development: Career Opportunities Seminar	—	\$0
<i>Second Fall General Member Meeting</i> – Informing members on upcoming events and having a presentation from Korban O'Malley, an undergraduate student, on his summer research.	September 20th, 2018	18 undergraduate members, 2 graduate members	ANS/Nuclear Industry Support	—	\$50
<i>ANS and INMM Fall Barbeque</i> – A beginning of the semester kick off and social for all members and the NE department to enjoy.	September 28th, 2018	70 undergraduate members, and 20 graduate members, 15 faculty and staff.	Socials: Picnic	—	\$200

continue...					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>Executive Board Officer Meeting</i> – Officers meeting to plan upcoming meetings, socials, and tours.	September 27th, October 22nd, November 11th, 2018	7 undergraduate members, 4 graduate members, 1 faculty member	Section Management: Event Planning	—	\$0
<i>Third Fall General Member Meeting</i> – Informing members on upcoming events and having a presentation from Deep Patel, an undergraduate student on his university research.	October 4th, 2018	19 undergraduate members, 3 graduate members	ANS/Nuclear Industry Support	—	\$50
<i>Trinity Test Site Tour</i> – Taking members to the Trinity nuclear weapon test site in White Sands, New Mexico which is only open twice a year.	October 6th, 2018	15 undergraduate members, 2 graduate members	Public Information: Tours	—	\$30
<i>Nuclear Science Week Career Fair</i> – Members attend a career fair with various industries represented including Sandia National Lab, and Urenco.	October 9th, 2018	30 undergraduate members, 10 graduate members.	Professional Development and Public Information	—	\$0
<i>ANS Trinity Dinner</i> – Local Section meeting and presentation on “Kilopower” by Patrick McClure.	October 12th, 2018	10 undergraduate members, 3 graduate members	ANS/Nuclear Industry Support: ANS Local Sections	—	\$0
<i>Nuclear Science Week Double Feature Movie Night</i> – Members attended the NSW presentation of “Navigating Nuclear: Energizing Our World Virtual Field Trip” and “Pandora’s Promise.”	October 17th, 2018	15 undergraduate members, 3 graduate members	Public Information	—	\$0

continue...					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>Millennial Nuclear Caucus</i> – Members attend a presentation on “Nuclear Science in Cinema” and a panel hosted by the National Museum of Nuclear Science and History.	October 18th, 2018	10 undergraduate members, 2 graduate members	Public Information	—	\$0
<i>Chipotle Fundraiser</i> – Students from UNM purchased food from Chipotle for ANS to raise funds for general meeting events.	October 16th, 2018	10 NE undergraduate members, 30 university members	Section Management: Fundraising	—	\$0 cost \$100 earned
<i>High School Nuclear Industry Presentation</i> – Members went to a local NM high school to present on various nuclear topics and the NE Dept. at UNM.	October 18th, 2018	4 undergraduate members, 1 graduate member	Public Information and Nuclear Industry Support	10 hours	\$0
<i>“A New Fire” Movie Screening</i> – Free public screening of the film “A New Fire.”	October 19th, 2018	15 undergraduate members, 2 graduate members	Public Information and Nuclear Industry Support	—	\$20
<i>ANS of UNM Halloween Party</i> – A Halloween themed social event with board games and trivia hosted at the section President’s house.	November 3rd, 2019	15 undergraduate members, 2 graduate members	Social: Party	—	\$0
<i>ANS Winter Meeting</i> – Students presenting research and representing UNM at the student section committee meeting.	November 11th to November 15th, 2018	3 undergraduate members, 1 graduate members	ANS/Nuclear Industry Support: ANS National Meeting and SSC	—	\$2700

continue...						
<i>Oak Ridge National Laboratory Information Session</i> - Networking and information session on job opportunities and internships at Oak Ridge presented by Leslie Fox, Senior Program Recruiter.	November 16th, 2018	30 undergraduate members, 7 graduate members	Professional Development: Career Opportunities Seminar	—	\$0	
<i>ANS Trinity Dinner</i> – Local Section meeting and presentation on “WIPP and a Bright Future,” by James Garza.	November 30th, 2018	10 undergraduate members, 2 graduate members	ANS/Nuclear Industry Support: ANS Local Sections	—	\$0	

SPRING 2019 EVENTS					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>Executive Board Officer Meeting</i> – Officers meeting to plan upcoming meetings, socials, and tours.	January 11th, January 22nd, February 5th, February 19th, March 5th, April 9th, April 23rd, May 5th, 2019	7 undergraduate members, 4 graduate members, 1 faculty member	Section Management: Event Planning	—	\$0
<i>ANS Trinity Executive Board Meeting</i> – Students meeting with the ANS Trinity Executive Board to plan local section events and seminars.	January 26th, March 30th, 2019	2 undergraduate members, 7 professionals	ANS/Nuclear Industry Support: ANS Local Section	—	\$0
<i>ANS and NE Department Tutoring Hours</i> – NE Graduate students tutoring undergraduate students from the department on nuclear engineering classes and mathematics courses.	January 30th, February 6th, February 13th, February 20th, February 27th, March 6th, March 13th, March 20th, March 27th, April 3rd, April 10th, April 17th, April 24th, May 1st, 2019	15-30 undergraduate members, and 12 graduate members	University Service	336 hours	\$140 (\$10 per session)
<i>First Spring General Member Meeting</i> - Informing members about upcoming events and recruiting volunteers for the Art of Science Event.	January 29th, 2019	30 undergraduate members, 5 graduate members	ANS/Nuclear Industry Support	—	\$50
<i>Art of Science Event</i> – Members working with the Society of Women Engineers to inform young girls in the community about nuclear science and technology.	February 9th, 2019	20 undergraduate members, 5 graduate members	Community/Public Service and University Service: Exhibits and Open Houses	120 hours	\$250

continue					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>Second Spring General Member Meeting</i> - Informing members about upcoming events and having a presentation from Phoenix Baldez, a graduate student, on his research at PNL and UNM.	February 12th, 2019	25 undergraduate members, 4 graduate members	ANS/Nuclear Industry Support	—	\$50
<i>Explora Engineers Day</i> – Members going to the local Explora museum with the Society of Women Engineers to teach the community about nuclear science and technology.	February 23rd, 2019	4 undergraduate members, 1 graduate member	Community/Public Service and University Service: Exhibits and Open Houses	2.5 hours	\$0
<i>Third Spring General Member Meeting</i> - Informing members about upcoming events and having a resume review and writing workshop.	February 26th, 2019	22 undergraduate members, 6 graduate members	ANS/Nuclear Industry Support and Professional Development	—	\$50
<i>Movie Night at the SUB Theater</i> – Members gathering at the Student Union Building to watch “Fantastic Beasts: The Crimes of Grindelwald.”	February 28th, 2019	4 undergraduate members, 1 graduate members	Socials	—	\$10
<i>ANS Late Night Study Hours: Midterms Prep</i> – Graduate students helping the junior class prep for their midterm exams and lab writing assignments.	February 28th, 2019	12 undergraduate members, 2 graduate members	University Service and Socials	—	\$10

continue...					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>ANS Trinity Dinner</i> -Local Section meeting and presentation on “Radiologic Technology: Discovering the Inside Story” by Susie Moseley.	March 1st, 2019	20 undergraduate members, 4 graduate members, 30 professionals.	ANS/Nuclear Industry Support: ANS Local Sections	—	\$0
<i>ANS Trinity Dinner After Party</i> – Student members and professionals having a social at a local bar after the local section dinner.	March 1st, 2019	2 undergraduate, 5 graduate, 10 professionals	Socials: Parties	—	\$0
<i>Math Moves You</i> – ANS Members teaching middle school and high school aged kids about the Math behind nuclear science and engineering and promoting the Nuclear Industry.	March 2nd, 2019	14 undergraduate members, 2 graduate members	Community/Public Service and University Service: Exhibits and Open Houses	128 hours	\$35
<i>Midterms Study Hours and Social</i> – Members gathering together to study for midterms in Nuclear Engineering classes.	March 3rd, 2019	20 undergraduate members	Socials	—	\$20
<i>ANS Game and Trivia Night</i> – Members playing board games and participating in a trivia competition during spring break.	March 15th, 2019	10 undergraduate members, 1 graduate member	Socials: Parties	—	\$30

continue...					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>Los Alamos, New Mexico Field Trip and Tour</i> – Experienced Los Alamos student interns showing future interns at LANL around the city and engaging in fun nuclear history related activities.	March 16th, 2019.	9 undergraduate member, 1 graduate member, 1 faculty member	Public Information: Tours	—	\$150
<i>Fourth Spring General Member Meeting</i> - Informing members about upcoming events and having a presentation by Ira Strong on how to use LaTeX.	March 26, 2019	20 undergraduate members, 6 graduate members	ANS/Nuclear Industry Support and Professional Development	—	\$50
<i>ANS National Membership Raffle</i> – To encourage national membership, 7 students were awarded a Chart of Nuclides when they became national members.	March 31st, 2019	15 undergraduate members, 5 graduate members	ANS/Nuclear Industry Support: Participation in ANS National	—	\$0
<i>Mandatory Student Conference Briefing</i> – A meeting for student conference attendees to finalize details for the conference and have a presentation from Dr. Perfetti on presentation skills.	April 2nd, 2019	10 undergraduate members, 1 professional member	Professional Development	—	\$0

continue...					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>ANS and INMM Nuclear Policy Day with Generation Atomic</i> – Members signing petitions and calling state and local representatives on behalf of the nuclear industry as well as attending a presentation from Bobbi Merryman and Phoenix Baldez on the status of the nuclear industry.	April 10th, 2019	30 undergraduate members, 6 graduate members	ANS/Nuclear Industry Support and Public Information: Political Involvement	—	\$10
<i>Fifth Spring General Member Meeting</i> - Informing members about upcoming events and having a presentation by Dr. Perfetti on Financial Literacy.	April 16th, 2019	25 undergraduate members, 8 graduate members	ANS/Nuclear Industry Support and Professional Development	—	\$50
<i>ANS Egg Hunt</i> – Members hid eggs filled with candy and ANS facts around the Farris Engineering building for members to find and enjoy.	April 22nd, 2019	30 undergraduate members, 10 graduate members	Socials	—	\$20
<i>Sixth Spring General Member Meeting</i> – Announcing ANS Trinity scholarship award winners and having a presentation by Dr. Willis on “Chernobyl Today.”	April 30th, 2019	30 undergraduate members, 10 graduate members.	ANS/Nuclear Industry Support	—	\$50
<i>Star Wars Trivia and Game Night</i> – A social night of fun and games for before finals week.	May 4th, 2019	12 undergraduate members, 2 graduate members	Socials: Parties	—	\$30

continue...					
Event/Activity	Date(s)	Number of Attendees	Activity Type	Hours	Cost
<i>ANS Trinity Banquet</i> – Students and professionals gathering at the Nuclear History Museum for a talk from LANL Director, Tom Mason.	May 17th, 2019	After Report Submission	ANS/Nuclear Industry Support: ANS Local Sections	—	\$0

### 3.2 Departmental Events

In this section we have included the information on the Nuclear Engineering Departmental events hosted during the Fall 2018 and Spring 2019 semesters.

<b>FALL 2018 Departmental Events</b>			
Date	Event Name/Title	Presenter	Host
August 21, 2018	Grad Student Orientation	Host: Adam Hecht, Faculty Grad Advisor	University of New Mexico
August 28, 2018	Radiation Effects in Metal Oxides and Carbides Ben Cowen, University of New Mexico Host: Cassiano Endres de Oliveira September 4, 2018	Materials modeling and simulation of fuels, waste forms and cladding materials	Eunja Kim, University of Nevada Host: Cassiano Endres de Oliveira
September 11, 2018	The Plutonium Landscape at Los Alamos	Drew Kornreich , Los Alamos National Laboratory	Host: Cassiano Endres de Oliveira
September 18, 2018	A Genetic Algorithm for Neutron Energy	Danielle Redhouse, Sandia National Laboratories	Host: Cassiano Endres de Oliveira
September 25, 2018	Update on Energy Choices and Consequences	Lee Dodds, University of Tennessee	Host: Anil K. Prinja
October 9, 2018	Nuclear Engineering and Nonproliferation at Los Alamos National Laboratory	Rian Bahrn, Los Alamos National Laboratory	Host: Cassiano Endres de Oliveira
October 16, 2018	Neutron Radiography and Additive Manufacturing Research at the Colorado School of Mines	Jeff King, Colorado School of Mines	Host: Cassiano Endres de Oliveira
October 23, 2018	Computational Multiphysics at Sandia National Laboratories	Glen Hansen, Sandia National Laboratories	Host: Cassiano Endres de Oliveira
November 6, 2018	Transient Testing Nuclear Fuels and Materials for Advanced Technology Development	Colby Jensen, Idaho National Laboratory	Host: Youho Lee
November 27, 2018	Overview of INL RELAP5-3D system code and examples of applications to LWR and SFR safety analyses	Carlo Parisi, Idaho National Laboratory	Host: Cassiano Endres de Oliveira
December 4, 2018	Establishing a Strong Nuclear Materials Foot Print at UNM	Osman Anderoglu, University of New Mexico	Host: Anil K. Prinja

SPRING 2019 Departmental Events			
Date	Event Name/Title	Presenter	Host
January 22, 2019	Seminar- Irradiation damage in nuclear materials: the microstructure evolution, hardening, and characterization methods	Dr. Zhexian Zhang, The University of New Mexico	Host: Osman Anderoglu
February 5th, 2019	Seminar- Toward the next-generation computational multiscale Multiphysics algorithm	Dr. Ryosuke Park, Los Alamos National Laboratory	Host: Cassiano Endres de Oliveira
February 19th, 2019	Seminar-NuScale Plant Electromagnetic Pulse Resilience in Reducing the Threat of a ‘Very Bad Day’	Dr. Camille Palmer, Oregon State University	Host: Anil K. Prinja
March 5th, 2019	Seminar-Backscatter Radiography as a Non-Destructive Imaging Tool	Dr. James Baciak, University of Florida	Host: Anil K. Prinja
March 6th, 2019	Seminar-Revving up nuclear power through innovative compact heat exchangers	Dr. Minghui Chen, Faculty Candidate, University of Michigan-Ann Arbor	Host: Anil K. Prinja
March 19th, 2019	Seminar-W/VO <sub>2</sub> for use as Fuel Elements for NTP	Dr. Dennis Tucker, NASA Marshall Space Flight Center	Host: Osman Anderoglu
March 20th, 2019	Seminar-Experiences Revitalizing and Advancing Molten Salt Technology	Dr. Brian Kelleher, TerraPower	Host: Anil K. Prinja
March 26th, 2019	Seminar-Development of Nuclear Power Plant Safety Technologies: Accident Tolerant Fuels, Passive Cooling and FLEX Engineered System	Dr. Jun Wang, Faculty Candidate, University of Wisconsin-Madison	Host: Anil K. Prinja
March 28th, 2019	Seminar-How to approach a “stranger”: unveil the mysteries of boiling by advanced techniques	Dr. Guanyu Su, Faculty Candidate, Massachusetts Institute of Technology	Host: Anil K. Prinja
April 2nd, 2019	Seminar-Understanding Tritium Transport Behavior in Molten Fluoride-Salt and Graphite Systems	Huali Wu, ABD, Faculty Candidate, University of Wisconsin-Madison	Host: Anil K. Prinja
April 23rd, 2019	Seminar-UNM Nuclear Engineering Department Symposium	STAMM Commons	Hosts: Anil K. Prinja and Robert Busch

continue...			
Date	Event Name/Title	Presenter	Host
April 30th, 2019	Seminar-An Overview of Some Recent Developments of Pebble bed and Prismatic Block Gen IV Nuclear Reactors and their TRISO Fuel Particles Manufacturing	Dr. Muthanna Al-Dahhan, Missouri University of Science and Technology	Host: Neven Ali

### 3.3 Detailed Events

#### 3.3.1 Outreach: Girl Scouts 2018

The Girl Scouts of New Mexico Trails “Girl Extravaganza!” event is the biggest girl scout event of the year in the state of New Mexico. It is an event geared towards teaching girls about science, technology, engineering and mathematics in an all-day outdoor experience. The GSNMT section collaborated with us to set up a nuclear science booth where girls could engage in various nuclear themed activities and earn their “Get to Know Nuclear Badge.” The UNM ANS section sent twenty students to this event to do hands on demonstrations about nuclear concepts and activities. The demonstrations consisted of:

- Radioactive Decay and Half Lives - Red Vines and graph paper
- Alpha Particle Modeling– Foam balls and toothpicks
- Fission Chain Reactions – Dominoes
- Personal Protective Equipment – Hazmat suits and gloves
- Finding the Radioactive Source – Geiger counters and various radioactive sources
- Radiation is Everywhere – Geiger Counters, and everyday items
- Nuclear History – Pieces of nuclear history
- Famous Women in Nuclear History – Pictures of women from nuclear history, and historical items
- Nuclear Today – Maps of nuclear power plants, statistics and facts about the nuclear industry

These demos are compliant of all the requirements recommended by the American Nuclear Society for the “Get to Know Nuclear Badge.” These demos were designed to have girls to become informed members of society who can then be involved in the nuclear industry and community. The goal was to tie each of these demos into a greater lesson about nuclear being a growing industry that is safe, interesting, and a great career path. Also, during this event we made an effort to answer questions from the parents and family of the girls, so they could continue to teach their children about the realities of radiation and nuclear science.

This event was very successful, and we were able to give out over 100 badges to girls over an eight-hour period, and we completed over 80 hours of community service. The major lesson we learned was to collaborate with already established girl scout events for maximum impact and outreach potential. One of the best practices we utilized was having 2-3 volunteers on the more hands-on demos, and only 1 volunteer at the more explanatory booths, as well as having two four-hour shifts of volunteers so volunteers would be able to take breaks.



Figure 3.1: ANS Volunteers at their stations at the Gutierrez-Hubble House in Albuquerque before the Girl Extravaganza Event.



Figure 3.2: Deep Patel teaching young girl scouts about how to find radioactive sources using a Geiger counter while wearing proper PPE.

### 3.3.2 Outreach: Nuclear Science Week 2018

This year ANS of UNM was honored to have Nuclear Science Week be hosted in our hometown of Albuquerque, New Mexico. We worked closely with The National Museum of Nuclear Science and History and Palo Verde to organize events at the museum as well as at UNM. ANS Members volunteered to direct Nuclear Science Week attendees to parking spaces at UNM, as well as set up the career fair, presentations, and movie nights during the week.

ANS members attended panels, presentations, career fairs, expos, and field trips to the Museum where we helped museum employees to teach students about special nuclear themed activities throughout the week. We finished off the week with the double feature movie night, playing “Pandora’s Promise,” and “The American Nuclear Society Discovery Program.”

Our members also attended the Millennial Nuclear Caucus, hosted by the Nuclear Museum and the Department of Energy. This was one of our efforts to get members involved in local and national nuclear politics and inspire the next generation of nuclear policy. All these events were very successful and potentially left a long-lasting impact on the future of nuclear industry in New Mexico.

Some of the best practices we observed from this event are:

- Get volunteers signed up early and remind them of their commitments several times before the actual event.
- Collaboration with national events like these take a lot of time and planning, so it is ideal to set up a well-organized chain of command beforehand, so tasks can be delegated appropriately.
- Do not forget to thank all your organizers for these events so that you can continue to collaborate with them in the future.

### 3.3.3 Outreach: Art of Science 2019

The American Nuclear Society at UNM collaborates with the Society of Women Engineers to host the Art of Science event every year. This is an event geared toward young girls, elementary to middle school aged, and its purpose to engage them with science, engineering, and mathematics but including elements of art in these fields. SWE collaborates with other engineering student orgs at UNM to put on this event, but this year and in years past, the ANS booth has been a favorite of all the attendees.

To incorporate the theme of art in science we generated a unique set of demonstrations and activities for the girls, while still including ANS’s mission of expanding nuclear awareness. Each of these events are hands on, and teach girls about radiation, the basis of nuclear. We had several stations set up throughout our classroom for this event and had about 100 girls total, four groups of 25 girls throughout the day. This event lasted about eight hours, and we had about 25 ANS volunteers at this event, serving for either four-hour shifts, or eight-hour shifts.

The hands-on demonstrations included:

- What is Nuclear Presentation – Giving the girls a brief background on radiation and nuclear science before they begin the below activities.
- Cloud Chambers - print outs of art pieces made using cloud chambers were displayed at the station along with a real cloud chamber activity.
- Non-ionizing Radiation using gas filled plasma glass tubes and a diathermy machine – we explained to the girls about artists that use this medium to create unique art works.
- Alpha Spark Detector – discussing the use of the alpha spark sounds in mainstream media, especially video games dealing with radiation.
- X-Ray Photography using a Wimhurst generator – this is a very hands-on activity that allows

girls to literally see the effect of radiation to produce an image.

- Lichtenberg Figures – showing girls the path of an electron through a block of acrylic and then encouraging them to draw their own electron “trees.”
- What Do You Think Nuclear Is? – coloring pages were made available to the attendees that highlight nuclear radiation and the fission vs. fusion process.
- Fission vs. Fusion – demonstrating full scale foam ball models of uranium-235 atoms and its fission products, as well as demonstrating a full-size chart of nuclides poster.
- Art on Radiation from Local New Mexico Artists – while all the above activities were occurring, a slide show of nuclear related art was playing on a projector in the room.
- Discovering Nuclear: Palo Verde – Playing the ANS discovering nuclear video in a room with snacks for the girls to enjoy after completing the above activities.

Some best practices utilized for this event:

- Provide a lot of snacks for volunteers as well as the attendees of the event, it tends help keep everyone involved focused and driven on their tasks at hand.
- Have lots of coloring and drawing opportunities available, this tends to help keep the girls excited about the various activities and focused on what is to come.
- Split the children up into smaller subgroups (3-5) so you can have them at different stations instead of in one giant clump of 25 children.
- Answer as many questions as possible from the children and encourage them to ask questions by giving a reward (such as small pieces of candy) to those that ask good questions.

Overall this was an extremely successful event and we plan to generate a handbook for this event this summer to submit to the ANS National Student Sections Committee. We encourage other student sections around the country to replicate this kind of activity in their own community.



Figure 3.3: Benjamin Houldrige demonstrating to a young girl the radioactive source inside of a smoke detector at the Art of Science event.



Figure 3.4: Lauren Crabtree (left) and Emily Hopkins from SWE (right) giving a presentation to the girls on nuclear radiation and science at the Art of Science event.



Figure 3.5: Bobbi Merryman demonstrating the concept of fusion to a group of young learners at the Art of Science Event.

### 3.3.4 Outreach: Math Moves You

Every single year the University of New Mexico School of Engineering puts on a fun filled day of activities geared towards teaching middle school and high school aged students in New Mexico about the mathematics behind engineering. Several student organizations participate in this event, and ANS is no exception. This year we generated a new set of activities for the students to teach them about nuclear, as well as to teach them math calculations that they can use in their classes at school.

The activities included:

- What is radiation and what is nuclear – a presentation to provide students with the background needed to understand the following activities.
- Nuclear Decay Reactions – showing the children how to perform alpha decay, positron decay, and beta decay reactions using the chart of nuclides.
- Half Life and Decay – explaining the concept of exponentials to students by having them model the half-life of a sample with twizzlers and graph paper, having them eat one half of the strip at a time.
- Cloud Chamber – showing the students a visual demonstration of a cloud chamber.
- Using a Geiger Counter – teaching the attendees how to use and read a Geiger counter and how to decipher what kind of radiation you are detecting.
- Discovering Nuclear: Palo Verde – playing the ANS film on Palo Verde Power Generation Station.
- Some of the best practices we used for this event include:
- Have more volunteers than you think you may need, it is extremely helpful to have extra volunteers really explain how to perform the decay reaction calculations one on one for students that struggle with the concept.
- Encourage involvement from the students by providing them with candy when they ask good questions.
- Explain the importance of these activities to the students before they begin so they know the practical application of their efforts.
- Have at least one volunteer that can speak Spanish at this event, it really helps students that have not learned English as a first language to understand the calculations. This is imperative to have especially in a rich, and culturally diverse environment such as New Mexico.

This was a very successful event as whole and we had 16 ANS volunteers participate in this event, and we reached out to over 100 students in our community.

### 3.3.5 Info Sessions: INL, Oak Ridge & PVNGS

The UNM ANS section goal in the fall semester was to primarily perform professional development activities for its members, and that included hosting recruiters from nuclear industry companies and national laboratories at our university. These recruiters would give an overview of the workplace environment, the qualifications and skills their businesses are seeking, and give students the tools needed to apply for jobs and internships.

Our section hosted Tomas Steele from Idaho National Laboratory, and he gave a brief presentation on INL and their labs. Following the presentation there was a small networking session with pizza and snacks with the INL recruitment team. It was a very well attended event and had a positive impact on the student body, with several students from our department receiving internships there this summer. We also collaborated with INL at the UNM engineering career fair to encourage students to

apply and become a part of the lab.

We also hosted Leslie Fox the senior program recruiter from Oak Ridge National Lab for an online virtual info session and presentation. Lastly, we invited Chris Cowdin from Palo Verde Power Generating Station for a special presentation in the School of Engineering lecture hall on all of the work that the power station does as well as how to apply to their internship programs. They gave an excellent presentation on how to do well in a job interview, and how to appear professional at a career fair. This was also a successful event for our section, and two students from our section have job offers and internships at Palo Verde starting this summer.

One of the best practices we learned from these events is to advertise heavily to other departments outside of nuclear engineering to get the maximum number of attendees. We also learned that aligning these info sessions with career fairs maximizes opportunities students and gives the businesses a chance to perform interviews for prospective employees.



Figure 3.6: ANS Members at the Palo Verde Power Generating Station Information session.

### 3.3.6 Policy: ANS and INMM Nuclear Policy Day 2019

To encompass more nuclear policy involvement in our student section, we collaborated with INMM of UNM as well as Generation Atomic to have a policy day at our university. At this event we had student section members fill out petitions to the government in support of nuclear industry growth and promotion. We also had members reach out and call our local New Mexico government representatives to express our nuclear interests. Additionally, we had Bobbi Merryman, our Outreach Officer and Generation Atomic Region Leader speak at this event about current trends in nuclear policy in the nation. Phoenix Baldez, our Member at Large and INMM Chapter President speak on his perspectives on the status of the global nuclear situation. This was a widely successful event and we had about 30 ANS members attend.

### 3.3.7 Field Trip: Los Alamos New Mexico 2019

As already discussed in our section on the Trinity Test Site Tour, one of our sections main goals this year was to reestablish our connection to the rich nuclear past of New Mexico. Part of that goal was to host a tour to Los Alamos, New Mexico, the site of the Manhattan Project as well as the birthplace of the nuclear bomb. In addition to bringing to light Los Alamos's nuclear history, we also wanted to incorporate a way to make future Los Alamos National Laboratory interns more comfortable before moving up there for the summer. To accomplish this task, we had former LANL interns attend this event to give future interns an inside edge to the Los Alamos community and culture.

During this event we had the former interns discuss along the way good places to eat, what you can expect on your first day at the lab, best modes of transportation to and from the lab, and simple things such as what to expect going through the LANL guard gates for the first time. Additionally, we encouraged LANL and ANS Trinity Local Section professionals to attend this event and share their experiences at the Lab. For this event we had about 10 members attend, and four laboratory professionals join us along the way.

The activities we hosted while in Los Alamos included:

- Visiting the Los Alamos Bradbury Museum, with a special guided tour from Dr. Trahan, a member of the Nonproliferation department at LANL that helped design the museum.
- Having lunch in historic Ashley Pond with Lab professionals.
- Hiking around formerly known TA-10 or Bayo Canyon with Geiger counters to find lost radioactive material from detonated plutonium nuclear weapons.
- Visiting the Los Alamos ski hill to get a good view of the town.
- Driving through the general admission guard gates to show students TA-1 and the badge office (where a new employee will report to on their first day).

Some of the best practices utilized during this event include:

- Encourage attendees to pack extra water and to wear good shoes before taking the hike down to TA-10.
- Have at least one former LANL intern in each car so that the future interns can ask any questions they may have on the trip to and from Los Alamos.
- Reach out to many local professionals to truly engage the entire nuclear community and provide future interns with contacts before they start on their first day.



Figure 3.7: ANS Members posing in front of the statue of Robert Oppenheimer at the Bradbury Museum in Los Alamos, New Mexico.



Figure 3.8: Tour attendees hiking through formerly known TA-10 or Bayo Canyon in Los Alamos, New Mexico.



Figure 3.9: Matthew Lazaric standing in front of the backdrop of Los Alamos National Laboratory after a very long hike.

### 3.3.8 Conference: ANS Winter Meeting 2018

At the 2018 ANS Winter Meeting, our section had two students presenting research, Gemma Strong and Deep Patel, and we brought our chapter President, Lauren Crabtree, and a graduate student member and External Communications Officer, Yuqi Liu, along as well to represent us at the student sections committee meeting. Two of our attendees generously received the Diversity and Inclusion

Travel Grant from the DIA committee and attended the DIA Committee meeting. Gemma Strong was a student program attendee, and at the student sections committee meeting she was nominated to be an ANS Student Director for the next round of elections. Deep Patel was also a member of the ANS Student Appropriations Subcommittee and attended their meeting at the conference as well. Several of our faculty members from UNM also attended this meeting, including Dr. Anil Prinja, Dr. Youho Lee, Dr. Amir Ali, and Dr. Christopher Perfetti. Overall, the winter meeting provided students a greater exposure to the ANS community and gave them a platform to become more involved in the nuclear community at large.

### 3.3.9 Conference: ANS Student Conference 2019

At the 2019 ANS Student Conference, our section supported four senior design project groups to present their group's design, and we supported one additional student to present their research at the conference. Ramda Galo, Andrew Hahn, Matthew Lazaric, Dieter Hanbicki presented their research in Space Nuclear Power and Advanced Reactor Design Divisions, and Gemma Strong presented in the Materials Science Division. We were also able to bring both our President, Lauren Crabtree, and Vice President, Dustin Dealy, as well as one Sophomore ANS member, Alexandria Ragsdale.

Our President and Vice President attended the Student Sections Committee meeting and attended the various workshops on how to host a student conference to help us prepare for our upcoming plans to submit a bid to host the 2021 Student Conference in Albuquerque. Additionally, our Faculty Advisor Dr. Perfetti represented the University of New Mexico at the career fair with real authentic New Mexico Hatch Chile in tow. ANS of UNM walked away with two awards to Ramda Galo and Andrew Hahn for best presentation in the Space Nuclear Division. Additionally, Alexandria Ragsdale became inspired during this conference to become the next chapter President of UNM ANS.



Figure 3.10: ANS UNM Conference attendees gathering together to celebrate at the ANS Student Conference Awards Banquet.



Figure 3.11: Ramda Galo (left), Dr. Perfetti (middle), and Andrew Hahn (right) posing with their awards for Best Presentation in the Space Nuclear Division.

### 3.3.10 Social: Palo Verde Isotopes Game

This year our section had the very lucky opportunity to attend an Isotopes baseball game sponsored by Palo Verde Power Generating Station with Palo Verde professionals. Palo Verde very generously donated 16 tickets to ANS of UNM. Members attended the game and networked with the PVPGS recruitment team, and all members were given Isotopes team baseball hats.

During the game ANS members were able to give PVPGS employees the real New Mexico experience by sharing green chile hot dogs and fries, specialty New Mexico foods, as well as a background in New Mexico culture. Additionally, members were able to enjoy an Albuquerque original experience, watching fireworks at an Isotopes baseball game. Unfortunately, the Isotopes did not win the game that night, but it was still a fun and thrilling experience for all involved. Go 'Topes!

### 3.4 Letters of Support



Department of Nuclear Engineering

To whom it may concern,

I would like to strongly recommend recognizing the extraordinary efforts of the University of New Mexico's American Nuclear Society Student Section during this previous academic year.

I began a faculty position at UNM in 2018 and am currently the faculty advisor for the ANS Student Section, and I've been flabbergasted at the amount of energy and dedication shown by the students in this Section. During this academic year alone they've hosted more than 30 professional development, outreach, and social events (a number which boggles my mind), they've awarded 100+ "Get to Know Nuclear" badges to Girl Scouts, and their volunteer support was critical to the success of the 2018 Nuclear Science Week Big Event (which was hosted in Albuquerque). Furthermore, they also displayed technical excellence, with 2 of UNM's 5 technical presentations winning Best Paper awards at the 2019 ANS Student Conference. In my experience as the past chair of two ANS Student Sections, and the past chair of one ANS Local Section, I have never seen such an energetic and productive ANS Section.

I should also point out that when this year started, the initial Section Chair was not ready for the commitment demanded to lead this Student Section, and he eventually stepped down at the end of the Fall 2018 semester (after accomplishing very little). It is a colossal blow to a section having their Chair fail to perform their duties and then step down – many sections do not recover for several years after this occurs. However, the UNM ANS Section was unphased by this setback. Several previous Chairs stepped up to help smooth over the transition, and the then-Vice-Chair very bravely agreed to serve as Chair. I think success in the face of this kind of adversity deserves recognition.

I have been informed that the Section is also preparing to submit a bid to host the next ANS Student Conference, but regardless of the result of their proposal I am confident that the Section has a bright future ahead of them, and that they will continue the success that they have achieved.

Sincerely,  
Dr. Chris Perfetti  
(505)-277-1945  
Assistant Professor, Nuclear Engineering Department  
University of New Mexico



## American Nuclear Society Trinity Section

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Samuel Glasstone Awards Committee:

I am pleased and honored as Chair of the American Nuclear Society Trinity Section to give our section's emphatic endorsement to the nomination of the **University of New Mexico ANS Student Section** for the **Samuel Glasstone Award**. We do so on the basis of having interacted directly with them over the past year and during that period, having had numerous opportunities to appreciate this student section's leadership team in action. This section also exemplifies the new breed of engineering researchers who work across traditional engineering disciplines to address a broad spectrum of nuclear challenges.

Last year we noted a big step up in the enthusiasm, engagement, and activity level of the UNM student section. We are thrilled that the positive change was not a fluke and has in fact continued through not one but two changes of leadership in the student section, including an unexpected mid-year change. We have every confidence that the strength of the UNM student section will continue to grow for the foreseeable future. Their efforts have gone above and beyond what we would expect out of student sections at any university, especially when the relatively small size of the program at UNM is taken into account.

At the local section level, they have sent at least one representative to all of our executive committee meetings, they communicate regularly with our leadership about events that they plan, they advertise our events, and the student attendance at our quarterly meetings continues to grow. Attendance at our last meeting was the highest of any meeting I've attended in my three years of involvement with this local section thanks to a strong registration push by their leadership.

At the national level, the UNM ANS Student Section arranged and supported student attendance at the ANS Winter Meeting and 2019 ANS Student Conference. The UNM Student Section worked hard at fundraising and successfully use support for the meetings as a means of getting students to be active in their student section.

The UNM ANS Student Section has also worked hard to benefit its members at the university as well as the people of the local community. They have hosted over many local events ranging from social to technical. These include bringing in outside speakers, movie screenings, and technical tours. They organize weekly tutorial sessions in which junior students are mentored and tutored by graduate students and upper level undergraduates. The UNM ANS Student Section also participated in and organized several outreach events, including a high school visit, events aimed at getting young girls



## American Nuclear Society Trinity Section

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interested in STEM, and a highly successful Girl Scout training event to help 150 Girl Scouts earn their "Get to Know Nuclear" patches.

We know that the UNM student section will continue to build upon their strong foundation and sustain and even exceed their current level of excellence. We can't wait to see what this Student Section achieves in the coming years.

We wholeheartedly endorse this nomination for the 2019 Glasstone Award. We believe that the UNM ANS Student Section's reputation will be enhanced through this recognition in the increasingly important area of early-career public service – a vital part of the ANS's future.

Sincerely,

Travis Trahan, ANS Trinity Section Chair

## 4. Appendix

### 4.1 Events Flyers

This section provides a few examples of the flyers we created to publicize our events throughout the school year.

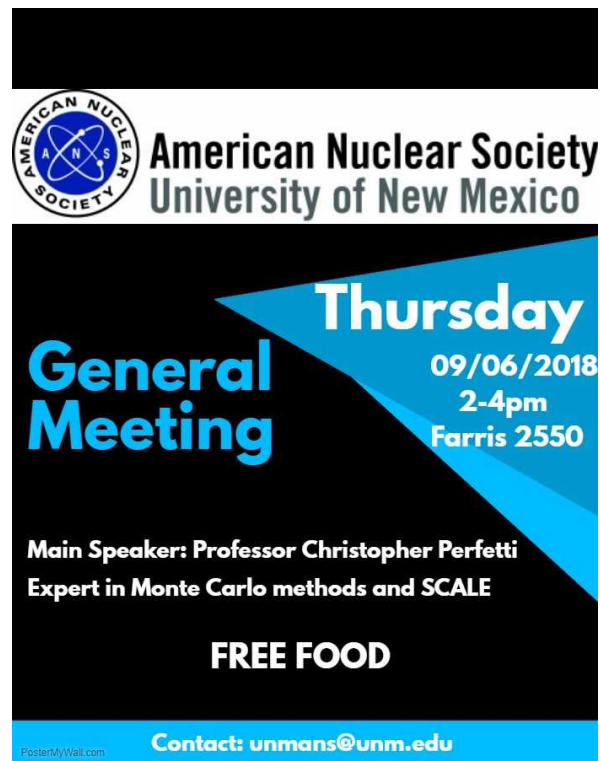


Figure 4.1: UNM ANS First Fall General Meeting September 2018



Figure 4.2: UNM ANS ExCom Elections April 2019



Figure 4.3: UNM ANS Game Night March 2019



Figure 4.4: UNM ANS Girl Scouts Event Fall 2018

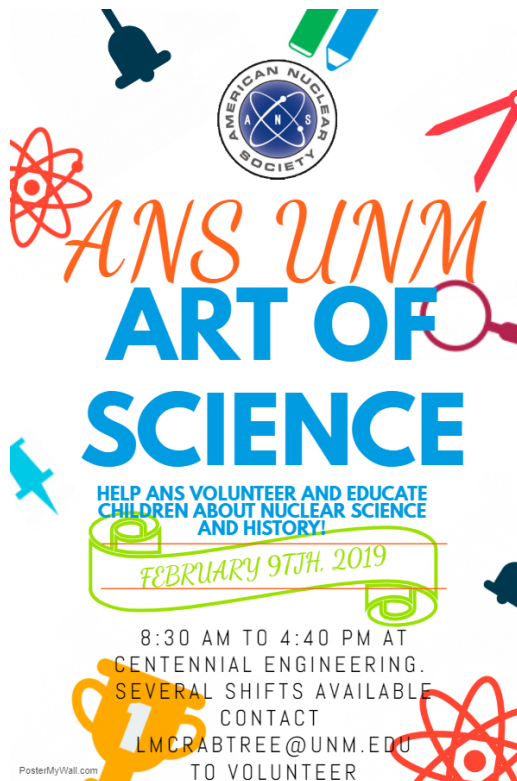


Figure 4.5: UNM ANS Art of Science February 2019



Figure 4.6: UNM ANS Palo Verde Isotopes Game August 2018

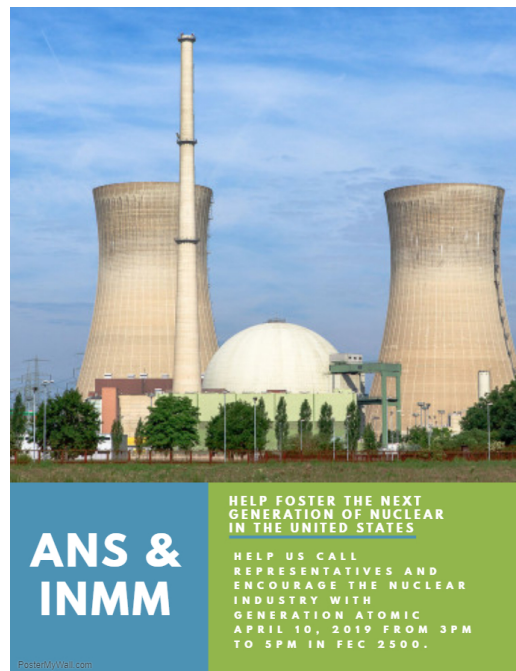


Figure 4.7: UNM ANS and INMM Nuclear Policy Day April 2018