

# MontanaTech

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## Anderson-Carlisle Technical Society

A Student Chapter of the Society for Mining, Metallurgy, and Exploration

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## Annual Report

May 5<sup>th</sup>, 2020

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# ACTS Membership

The Anderson-Carlisle Technical Society (ACTS) consists of approximately 50 active student-members representing Mining, Metallurgical, Geological, Geophysical, Civil, Mechanical and Environmental Engineering students at Montana Tech (Montana Technological University).

The mining industry requires the cooperation of many different organizations and people. ACTS and its sister clubs begin that at the college level. The ACTS is the “umbrella organization” with the Geological Engineering Club, Club Met, Mining Team, and Mine Rescue Team under the umbrella. This academic year saw the addition of new student chapters of the International Society of Explosive Engineers (ISEE) and Women in Mining (WIM) added under the umbrella of ACTS. Many of our members are active in two or more of these clubs.

The story of the Anderson-Carlisle Technical Society is a story of its members and the clubs that are associated with it. It often requires two or more of these clubs to accomplish all of our goals. The 2019-2020 chapter officers are listed below, as well as the leaders of the other clubs.

## 2019-2020 SME Chapter Officers

|                  |   |
|------------------|---|
| President:       | Kezia Jetmore   |
| Vice President:  | Ethan Steffen   |
| Treasurer:       | James Ray   |
| Secretary:       | Cooper Knoll  |
| Historian:       | Vacant  |
| Faculty Sponsor: | Prof. Scott Rosenthal<br>(Dr. Tom Camm on sabbatical) |

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## 2019-2020 Mining Team:

|                      |  |
|----------------------|--|
| President:           | Johanna Stinson                            |
| Vice President:      | Seth Salusso                               |
| Team Captain:        | David Otto                                 |
| Secretary/Treasurer: | Seth Gudgel                                |
| Sponsors:            | Prof. Scott Rosenthal and Prof. Chris Roos |

## 2019-2020 Mine Rescue Team Officers

|                      |                 |
|----------------------|-----------------|
| President:           | Cooper Knoll    |
| Vice President:      | Ethan Steffen   |
| Secretary/Treasurer: | David Wuellner  |
| Trainer:             | Alex Davis      |
| Sponsor:             | Dr. Paul Conrad |

## 2019-2020 Geological Club Officers

|                 |                         |
|-----------------|-------------------------|
| President:      | Information Unavailable |
| Vice President: | “ “                     |
| Treasurer:      | “ “                     |
| Secretary:      | “ “                     |
| Sponsor:        | Dr. Larry Smith         |

## 2019-2020 Club Metallurgy Officers

|                 |                         |
|-----------------|-------------------------|
| President:      | Kathryn Bozer           |
| Vice President: | Information Unavailable |
| Treasurer:      | “ “                     |
| Secretary:      | “ “                     |
| Sponsor:        | Dr. Courtney Young      |

## 2019-2020 ISEE Chapter Officers

|                      |                       |
|----------------------|-----------------------|
| President:           | Nicholas Venteicher   |
| Vice President:      | Thomas (Cody) Lewman  |
| Secretary/Treasurer: | Seth Gudgel           |
| Faculty Sponsor:     | Prof. Scott Rosenthal |

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## 2019-2020 WIM Chapter Officers

|                      |                               |
|----------------------|-------------------------------|
| President:           | Shayna Burgess                |
| Vice President:      | Adele Berg                    |
| Secretary/Treasurer: | Vacant                        |
| Faculty Sponsor:     | Adjunct Prof. Sonya Rosenthal |

## History

The Anderson-Carlisle Technical Society was founded in 1922 by the senior class of the Montana State School of Mines. The name of the organization was chosen as a memorial to the two men of the school who lost their lives in World War I. In 1923, the group became affiliated with the American Institute of Mining and Metallurgical Engineers as the first student chapter. Today the chapter consists of students from the Mining, Metallurgical, Geological, Geophysical, Civil, Mechanical and Environmental Engineering programs at Montana Tech.

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# President Report

The 2019-2020 school year started as a great year for the Anderson-Carlisle Technical Society (ACTS). The semester started and I received an email from the acting advisor for SME, Scott Rosenthal. He reported the officer positions had not been filled from the year before. I went and talked to him that day and volunteered to be the president for the year. He said he needed to talk to the other professors about it and he would get back to me. Later that day, I received an email back congratulating me on becoming the SME President for the 2019 - 2020 school year. With this happening, I had to get people inspired to help me set up club rush and get ideas for events for the school year.

After Club Rush, Anderson-Carlisle Technical Society (ACTS) had thirty-one students come to the first meeting. I talked about the goals I had, such as participation for the point system the ACTS uses to keep track of participation. The point system helps the officers and advisor keep track of which student and has increased participation during the fall before the conference in the spring.

The club hosted a technical talk in the fall semester. Joan Danninger, technical Minerals Manager for Rio Tinto Kennecott came and gave a talk about the Manefay Slide and what her team did to remediate the pit. A team from Cementation came and gave a presentation about shaft sinking. Mike Selover with Vermeer came in and presented to the students about different hard rock mining solutions, more specifically the continuous miner Vermeer developed. The last technical talk the ACTS hosted was Ken Wooly with Peabody Energy came and gave a talk about Peabody and what the future holds for the company and opportunities for new graduates. Each of these talks had a range from 15 to 25 members attending.

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The ACTS also participated in Montana Tech's Homecoming Festivities. The theme of homecoming this year was Fandom. ACTS had members participate in every event of Homecoming. ACTS painted a Harry Potter-themed window mural, competed in the race to the 'M', bowling, trivia, and the bed races.

The Haunted Mine Tour is an event ACTS has helped with in previous years. This event is hosted by the World Museum of Mining and the Montana Tech Mine Rescue Team. Members helped decorate the Orphan Boy and Orphan Girl mine behind Montana Tech. Then the next day, the tours opened, and the ACTS had volunteers who were tour guides and make sure everyone who went underground had the proper PPE and made sure no one got left behind. We also had to clean up all the decorations after the event was over. Over the weekend, we had twenty or more members help with the setup and act as tour guides, and five members helped with the teardown.

Every year ACTS volunteers with the Treat Street Event. This event takes place at the World Museum of Mining and is sponsored by Butte's local radio station. Hundreds of kids from the community wander around the museum. The ACTS volunteers by putting the tables uptake the tables away, and hand out beverages to the kids during the event. This is a fun event for the members to talk to and to meet the new members.

This year ACTS hosted a new event called the Baby Supply drive. The club partnered with the New Hope Pregnancy Clinic to collect items that new mothers would need such as diapers, clothes, blankets, toys, and much more. The first year doing this, the drive went smoothly. We received donations from the community, students, and faculty.

It is important for members to attend the annual conference. Myself, as well as my fellow officers, and all the department faculty stress this to students in the mining

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department and who are interested in working in the mining industry. With the conference in Phoenix, students had to pay for their registration and plane ticket. The club paid for the hotel rooms for the students. This year ACTS had 30 members go. This is exciting because in the past there have been fewer members attend, this number is comparable to the number of 32 members who went to Denver last year. From the peers, I spoke to many of them were looking to network, learn about the new technologies through the talks, and look for jobs. I know a few were successful in the job hunt. I hope that the number of students will increase for attending the conference in the years to come because it is such a great place to meet industry people and make new friends with students from other universities.

After we got back from the conference, we had a final event in which members of ACTS volunteered. This was the Montana State MATHCOUNTS Competition. Middle schoolers through the state came to Montana Tech and competed. The volunteers were tasked with grading the tests after the middle schoolers had finished. We kept up on the scores so other MATHCOUNTS volunteers could keep the students informed on their results.

This was the last event ACTS could hold before the Montana Tech switched to all online classes because of COVID-19. I am happy with the participation of the members. Without them, we would not have been able to have a great year helping the community of Butte. I look forward to seeing what next year has in store for ACTS..

Kezia Jetmore  
President, Anderson-Carlisle Technical Society - SME  
Montana Tech

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# Treasurer Report

As the Treasurer of the Anderson-Carlisle Technical Society (ACTS), it is my honor and duty to monitor and maintain the funds of the ACTS chapter at a positive balance, inform officers and advisors of the funds available to the chapter, and perform reconciliations to compare totals at the time of this report. These were my primary responsibilities. Other duties included assisting with daily operations of the chapter, informing members of fundraising activities, assisting with fundraising activities, recruiting new members to the chapter, as well as supporting current chapter members.

Fundraising was not performed and COVID-19 brought a halt to plans for spring fundraising opportunities.

James Ray  
Treasurer, Anderson-Carlisle Technical Society - SME  
Montana Tech

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## Secretary Report

As the Secretary of the Montana Tech ACTS student chapter of SME, it is my responsibility to inform members of different events that are upcoming. I also kept track of our point system, making sure the members received credit for helping with different events throughout the year. I was very involved with keeping track of our records for our officer's meetings throughout the year. It was also my responsibility to assist the other officers and members with any other events or tasks that arose throughout the year.

The year was cut short following the SME conference in Phoenix, AZ due to COVID-19.

Cooper Knoll  
Secretary – Anderson Carlisle Technical Society – SME  
Montana Tech

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## Gem Section

### World Museum of Mining

Once again, Montana Tech's ACTS aided the World Museum of Mining in the setup and execution of its annual Halloween Treat Street Event. Every year, the museum hosts dozens of local businesses which distribute treats for hundreds of Butte's children in a safe, well-lit, and vehicle traffic-free area on the grounds of the museum. ACTS setup the tables for the booths, distributed healthy beverages to children and parents alike, provided security and curatorial assistance at the exhibits, and clean-up after the event was done. ACTS will continue its relationship with the museum in this and other capacities in the future.

### Orphan Boy Mine

Beginning in the fall of 2012, Montana Tech began construction of a new underground laboratory in the old workings of the historic Orphan Boy silver-lead-zinc-manganese mine on the school's campus. Over the course of five months, a decline was driven from the surface to the 100 foot level of the Orphan Boy, intersecting the old crosscut between the Orphan Boy and Orphan Girl production shafts, as well as accessing the Orphan Boy ventilation shaft. Montana Tech offers a Practical Underground Mining class to its students, under the supervision of faculty and adjunct faculty (professional miners), allowing students hands-on learning to jackleg drill, set ground support, blast rounds and operate muckers providing a world-class underground laboratory benefitting the OSH, Mining, Geological, Metallurgical, and Environmental Engineering departments at Montana Tech.

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**ACTS student-members Logan McQuinn (left) learning to jackleg drill and being watched over by David Otto in the Orphan Boy Mine.**

## Thompson Distributing Food Drive

This year, ACTS continued its commitment to volunteer in the Annual Thompson Distributing Food Drive with the help of the Butte Search and Rescue, Racetrack (Butte Volunteer) Firefighters and other groups. Club members in ACTS travel throughout Butte and surrounding neighborhoods to collect non-perishable foods and money to contribute to the Butte Emergency Food Bank. This is a great event that ACTS is proud to work with the community.

## On Campus

### Guest Speakers & Chapter Meetings

This year, ACTS sponsored several guest speakers at the chapter's meetings. ACTS is responsible for arranging hotel rooms, reserving equipment and a room needed

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for the presentations, advertising to the students and faculty, and providing refreshments. These presentations allowed the students more insight into their potential employers. Our guests during the past year include the following.

Joan Danninger  
Rio Tinto Kennecott

Mike Selover  
Vermeer

Ken Wooly  
Peabody

## **ACTS Social**

### **End of Year Pizza Party**

Every year the Mining, Geological, and Metallurgical Engineering Departments host a pizza party for the graduating seniors the weekend before graduation. This event was cancelled because of COVID-19.

## **Off Campus**

### **Professional Meeting - SME Convention**

This year, 30 of our student members attended the 2020 SME Annual Meeting in Phoenix, Arizona. These students ranged in many different educational backgrounds: Mining Engineering, Metallurgical Engineering, Geological Engineering, Mechanical Engineering, Electrical Engineering, and Environmental Engineering Programs. With the help of our fundraising efforts Montana Tech Alumni, the Geological department and student contributions, the ACTS SME chapter was able to send the students at a minimal cost to its members. While at the convention, members participated in the student functions, attended technical sessions, worked the Montana Tech booth, and attended

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social functions. This year's conference was a great opportunity to learn and grow for all who attended.

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# ACTS Campus Affiliates

## Mining Team

The 42nd Annual Intercollegiate Mining Competition was planned to be hosted in Central City, Colorado by the Colorado School of Mines. Unfortunately, the competition was canceled due to the COVID-19 pandemic. There were 6 teams, 36 students, planning to represent Montana Tech at the competition. Although the teams were devastated by the last-minute cancellation of the competition, they look forward to traveling to Kalgoorlie, Western Australia for the 43rd Annual Intercollegiate Mining Competition. The 2020-2021 Mining Team will begin recruiting, fundraising, and training next fall.

## Mine Rescue Team

The Montana Tech Mine Rescue Team was formed under the umbrella of the ACTS in Fall 2013. The mine rescue club continued to fundraise, train, and compete this year. Over the course of the year, the team participated in first aid training at a local training facility and benching training with professional mine rescue team members. Members from the team attended the SME conference in Phoenix and competed in the mine rescue skills competition there. The team got first in the team tech competition, second in the first aid competition, and second overall. Club members volunteered their time and energy to the Underground Mine Education Center on Montana Tech's campus by erecting a fence along a portion of the property boundary. Through this effort, the club secured a space within the new dry building at the UMEC which will be utilized for future training and equipment storage. The club also received a very generous donation from (Barrick or Redpath). This donation included a significant amount of equipment

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including some essential to sustaining the team's training practicing resources. Haunted Mine Tours, the annual fundraiser, were once again successful this year.

## International Society of Explosives Engineers

The Montana Tech Chapter of ISEE was founded in the Fall of 2019 and approved by the ISEE board in January of 2020. Most students involved in the chapter are Mining Engineering students, with a few other disciplines mixed in. We had three notable meetings. The first was our inaugural meeting and “Pint Night” fundraiser at a Quarry Brewing. We also had two meetings with guest speakers. Cliff Stout gave a presentation about using explosives in the United States Forest Service, focusing on trail construction and Dylan Haddix of Nelson Brothers spoke about cast blasts in the Powder River Basin. This year we brought nine students to the ISEE conference held in Denver, Colorado in mid-January. Four of the students participated in the “Powder Monkey” volunteer program, new at this year’s conference. Volunteers helped direct attendees to specific presentation rooms and answer questions regarding the event. The conference is a great networking opportunity for students who are interested in moving into the explosives industry, as well as a great opportunity to learn about current blasting technology and unique projects.

We look forward to attending next year’s conference in Orlando, Florida and continuing to grow our volunteer opportunities.

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## Women in Mining

Women in Mining strives to educate members about mineral resources and related industries, institute and promote the technical relationship between mineral production, national economy, and the public good, and preserve and maintain the mining heritage. The Montana Tech Chapter was founded in Fall 2019, had five monthly meetings with guest speakers (October through February) and will continue to grow and evolve. We will increase our community involvement, invite multiple speakers, and complete workshops in order to spread the knowledge of the first WIM chapter in Montana.

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# Signature Page

Date: May 5, 2020

I have read the report of the activities of the Montana Tech Anderson-Carlisle student chapter of the Society for Mining, Metallurgy, and Exploration (SME) for the 2019-2020 academic year and approve its release to the national SME chapter.



Scott Rosenthal, P.E.  
Associate Professor & Department Chair  
Anaconda Professor of Mining Engineering  
Mining Engineering Department  
Montana Tech

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