ACTIVITY SUMMARY

In this report we will capture all the activities carried out during the last year by the SME Student Chapter UCSM.

GREAT GOALS ACHIEVED

During this last year we obtained important achievements, but it is only the beginning of the path to reach to be the best Student Chapter.
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Executive Summary

The SME Student Chapter – Universidad Católica de Santa Maríá is pleased to present the annual balance of the culminated period which includes financial management, directory reports, activities carried out on and off campus, achievements and various future expectations that were expressed in the period 2018–2019.

In our first year as a student chapter we had several challenges and challenges to overcome, our first objective this year was to consolidate as the leading student association for excellence in our school and university, which we have been able to obtain thanks to the achievements in various national competitions for the effort and merit of our members.

Our members found in the student chapter a second family where they could improve as people, their relationships, academic aspects, technical aspects and even develop new skills and abilities which allow us to be better professionals in the long run.

As a student chapter, we emphasize that our main area of work and distinction is the area of innovation and research, we hope that in the future we can have scientific production prepared from our student chapter or be able to count on our members exposing their work in the most important auditoriums of a mining event, the first steps we took with 3 recognized projects in national competitions that were awarded, but it is simply our starting point.

We are very satisfied with all the performance shown throughout this period and at the same time very happy to have received the support and support of the SME representatives, with our chapter already consolidated, now our projection focuses on being able to participate in competitions of international stature such as of planning and design, mine, Hackaton, Move Mining, win the MEC contest, among others. In short every year the challenges will be bigger, but the results even more impressive and better.
Faculty Sponsor’s Report

Date : 27th May, 2019

Mrs. Mona Vandervoort
Education Coordinator
SME – Society for Mining Metallurgy and Exploration
1200 Adam Aircraft Circle
Englewood, Colorado 80112
U.S.A.

Dear Mrs. Vandervoort:

In my condition of Faculty member at the Universidad Católica de Santa María and Faculty Sponsor of the SME Student Chapter Universidad Católica de Santa María I am very happy to present the summary of activities of our members of the student chapter. In short, they worked in a great way and were able to achieve their stated objectives. It was a great experience to have served in their development and strengthening as future professionals.

With best regards,

Alcides Lazo
Mining Engineer
Faculty Sponsor
In short, the current needs of the mining market are growing at an overwhelming pace, which is why more and more skills, qualities, skills and aptitudes are required in future professionals in the industry.

In this context one of the main objectives that we have as a student chapter is that our members can strengthen their qualities in different areas whether personal, academic, soft skills, technical and/or any necessary aspect to improve in a training stage, it is for we try that our student chapter is more than a student association, it is more than a place of study, it is more than a space where you can participate in various topics of interest, but what we really want is to be a place of development, of growth and strength, a space where there is no fear of error, where you can participate in branches that you had not tried before or in which you thought you were not good, a space of comfort, where more than a place with colleagues, what you really will have is a space with a family.

In particular I am very proud to have been a member and president of this great student association that had a unique human quality, very proud of all the achievements and challenges overcome, having been part of the establishment of the starting point for the strengthening of the student association for the future, that this is the beginning of great things for our chapter, that our members can contribute to our school, university and SME.

I fully trust in the new directive that will guide the members to reach the new objectives set for the future, which will far exceed the activities carried out by us, which will be able to continue with the work that we started and which will make the student chapter of the UCSM the best student chapter of all, but that in turn will always maintain the essence of our the reason for its creation, since they have our unconditional support at all times.

We hope soon to have representatives of our student chapter in the SME congress in the United States, and that upon returning with the new experiences, they can strengthen and provide feedback for the development of our student chapter.

"More than an academic experience it was a life experience..."

This will undoubtedly not only be marked for me as an academic or technical experience, but it was more than that because for me it was a life experience.
It is extremely necessary to start by thanking the SME because all our achievements at the university level are related to this society.

I would like to thank WAAIME, for trusting me, your support was very necessary to be able to focus all my energy in developing projects that involved the professional growth of all my university colleagues and that contributed to the development of the mining industry.

Within the Mining Industry in our country, what is sought now is that professionals not only have an excellent academic training, but also need to develop other aspects that are essential to ensure professional excellence. Aspects such as soft skills and which are the fundamental pillar that contributes to the development of the mining sector.

We, as a chapter, focused on achieving precisely this development in soft skills that our members needed to be able to enter the job market efficiently.

One of the greatest achievements we could achieve as a chapter, was to win the headquarters of the most important mining student congress in Peru, called CONEIMIN, in which all the universities of our country participate in different academic, sporting and cultural competitions that are related with mining so that in this way the University that gets the highest score gets the headquarters of the prestigious congress. This achievement reflects the teamwork we put into practice, and showed us that if you go alone for life, you may arrive faster to a certain goal but never farther than if you worked as a team.

"Strength does not come from physical capacity. It comes from an indomitable will"

Mahatma Gandhi
If there is something that characterizes a university student is his perseverance and determination, and if these things focus on something that passionate you will result in a person able to use their skills to the fullest. The research will be part of your endeavor, which means that you will not only have the ability to detect problems, but also to solve them; and from all this will be born his innovative spirit.

At the beginning of the SME-UCSM student chapter, we had the certainty that we had young people with many innovative ideas, we grew exponentially in research by the same tools that SME offers us. Study groups were quickly formed, and competitions appeared at the same time to challenge us. The results did not take long to arrive because in the same year we got 1ST PLACE in the contest of INNOVATION CHALLENGE held at the CATHOLIC UNIVERSITY OF SANTA MARIA, August 2018. With the Project on Environmental Quality: "Reuse of tires and Fito air remediation", 3ST PLACE in the HACOTEC competition held at UNIVERSIDAD NACIONAL MAYOR DE SAN MARCOS, from October 15 to 20, 2018. With the Project: "System to control the wear of drilling steels in rotary drills in surface mining". These were enough to impact and give recognition that in our chapter anyone who decided to undertake, achieved it. I am proud of the entire team of our chapter, for the dedication not only at the contest level, but also in the small workshops, courses, presentations and calls that we had throughout the year. Many people joined little by little. The spirit of innovation was present everywhere, the demand and competitiveness were not necessary.

I am pleased to know that we inherited the SME-UCSM chapter from very competent colleagues who were not only inspired by our fruits, but their enthusiasm to overcome the fence we leave them is always present. I thank God for this opportunity he gave us to grow as engineering students of Mines.

Figure: Members of our Student Chapter in the final of the innovation contest
3rd place: Vladimir Flores, Braulio Echevarria, Victor Salas

"I am very sure that the roof that was once for us, for them will be its first floor"
## Treasure’s Report

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## Active Members

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Activities

Monthly meetings

Various monthly meetings were held in which we could coordinate various activities, workshops and/or training necessary for the members of the student chapter. Among the recurring activities, we highlight our mandatory chapter meetings that were used to coordinate future activities, workshops and/or seek to resolve any needs of our members. Within our most recurrent activities, we highlighted our presentations in English, which consisted of an explanation of a specific mining topic to strengthen the use of the language and also our continuous evaluations that could be oriented to technical issues or other types of evaluations like GATE EXAM.

English Presentations

The regularity of our meetings varied between 2-4 times a month, depending on the planned schedule and the activities that we had to carry out in the short term. The presentations in English were very beneficial for all the members, since unlike a traditional course, the participants had to expose on a technical topic of mining which added an extra difficulty since they had to have a very good previous preparation, that they included extensive readings on the specific technical subject and learning of various concepts related to the topic to improve our technical language.
Meeting of graduates and orientation day

Date: December 14th, 2017

One of the most representative activities of our student chapter was to institute a day in which recent graduates of our professional school who already have experience in mining, attend our University to share with us and the members of the School their experiences Professionals in their early years in mining, from the technical point of view which includes talking about the different current requirements of the mining market, thus encouraging our colleagues to optimize their preparation in various mining topics; also the discussion also turns to a more personal point of view where advice is given for a first professional practice from how to unravel until attitudes or actions should be avoided. This activity is a unique moment of integration between our student chapter and the members of our Professional School of Mining Engineering.

The projection in this activity is to have a day that includes a day to share technical and personal experiences of the different realities that comprise being able to work for a mining operation directly or in a mining contractor, in different scenarios that provide our great and diverse country. An additional objective is to complement it with a sports day, where sports championships will be held between different promotions which would allow improving the connections between the members of our professional school.

In our first edition we counted on the participation of the two excellent professionals graduated from our school as they were at that time had the charges in mention.

- Bsc. Jose Tong Ladron D’Guevara – Engineer Junior Field at Orica’s Mining.
• Bsc. Melanie Morales Pulcha – Training Engineer at JRC Mining

Both shared with us their experiences in Superficial mining in the case of Bsc. José Tong who explained to us several technicians and optimization initiatives that he proposed in his place of work, as well as in Underground Mining where Bsc. Melanie Morales told us about her experience in underground operations where she had been developing, emphasizing the role of women in Underground Mining.

In these presentations we could observe different graphic material such as photos and videos that reflected the work done at the time by our speakers, as well as the tasks and locations that they used in their work activities. On another point they also showed us some optimizations and contributions they made in their jobs, seeking to motivate among the attendees to develop various skills and extra skills required by the current mining sector in our country and in all the world.
Coaching’s OMA

*Date: April 13th – 14th, 2018*

A very important aspect in the training of new professionals is the development of soft skills, so in conjunction with the Mining Student Center of our University could participate in a Coaching and Leadership workshop in charge of the World Organization of Learning (OMA), where they could reinforce various aspects necessary in the training of a Mining Engineer.

Mining Leadership and Innovation Training Workshop

*Date: April 16th, 2018*

One of the aspects that we seek to strengthen in our student chapter is the topic of research and technological innovation, in this quest to strengthen these skills in our members we could receive training and workshops by Ing. Homar Lozano with his company ISE LAB which gave us a very didactic workshop with diverse dynamics, diverse group work in which we were able to strengthen our abilities to undertake the development of some business idea in the future or to be able to carry out a scientific investigation.

*Figure 4. The group gathered after the Workshop*
Pre-professional Practices Report

Date: April 25th, 2018

During this day we invited all our active members of our student chapter who made their pre-professional practices during the summer season so that they can share their experiences and recommendations for the first work experiences with students from lower years.

Exsa Explosives Seminar in Our University

Date: June 5th, 2018

One of the branches most requested by our members was the issue of blasting and explosives in general, so coordination was made with the company Exsa so you can make a presentation at our University, which was a total success where they attended more than 200 people, an excellent day thanks to the participation of the company Exsa and Eng. Oscar Mauró who was in charge of the presentation and provide us with a wide range of knowledge during that day.
Course JK Simblast

*Date: August, 2018*

One of the most requested workshops by our members was the JK Simblast software, whose function is to perform simulations of blasting meshes. This course was organized by members of our student chapter in conjunction with a training entity in the facilities of our house of studies. During the long hours of training, topics of great importance were discussed in the training of a mining engineer, specifically in the area of operations in both surface mining and underground mining.

In the development of this course, we learned various aspects and modules of this important mining software. We worked in surface mining with the Jk bench module, as well as in underground mining with the Jk Face module. The event was carried out thanks to the coordination and organization of our members was a very productive week and we hope to be able to arrange more training in the future.

For this specific course we have about 20 enrolled, which could solve different cases of study that serves as a complement to their academic training in the study rooms of our university.

*Figure 7. Course of JK Simblast for our members*
II Mining Leadership and Innovation Training Workshop

In this workshop, thanks to Ing. Homar Lozano and his company ISELAB for their support, the principal topics of the well-known 4.0 industry and the current market needs regarding technological innovation and information management were discussed, touching current topics such as Artificial Intelligence, Big Data, complex data analysis among other current aspects that need to be developed in order to adapt to the needs of companies in the medium term.

Figure 8. Work groups during the event

Figure 9. The hole group together with Eng. Homa Lozano
Field Trips

Trip to SME Moquegua Seminar

Date: November, 2018

During the month of December we made a trip as a student chapter to the “IV Seminario SME” organized by the National University of Moquegua and its student chapter SME, without a doubt it was an excellent experience and opportunity to attend different technical talks, to take advantage of the visits techniques to the operations of Southern Peru Cooper Corporation, also we were part of the sports activity as was the SME soccer championship between different Universities and Higher Institutes in conjunction with the Mining Company.

One of the aspects that we highlight most as a student chapter was being able to have shared with SME members from different houses of studies, thus improving ties between student chapters.
Technical visit to Cuajone and Toquepala mines (SPCC)

Date: November, 2018

During our trip to Moquegua as a student chapter we were able to visit the mining operations of the Southern Peru Cooper Corporation, both the Cuajone mining unit located in Moquegua and the Toquepala mining unit located in Tacna, it was a very pleasant experience for our student chapter members, since they were able to know some of the largest and most important operations in our country, where they could identify important aspects in the operations of these units and know them a little more closely each of their processes.

Figure 10. Some of our members sharing with members of other universities in the technical visit.

Figure 11. Technical visit to the Cuajone’s Mining Unit
Competitions

Participation in the Regional Contest of “Innovation Challenge”

During our annual activities one of the most important points that we promote as a student chapter is the aspect of innovation, which is why on this occasion several of our members participated in the regional innovation competition, which consisted in developing an idea among multidisciplinary groups for to be able to solve a problem raised by the organization of the event, being that we highlight in a good way the participation of our members who participated until the end of the contest.

As a student chapter we make an honorable mention to the following members who participated in the extensive contest and were able to reach the final stages:

- Braulio Andree, Echevarría Castro
- Vladimir Benito, Flores Castillo
- Jordy Anthony, Alvarez Luna
- Víctor Augusto, Salas López
Participation of our members in the National Congress of Mining Engineering Students - XIV CONEIMIN UNMSM

Our student chapter had different members who participated within the framework of the national congress of students of mining engineering organized by the National University of San Marcos, based in the city of Lima, within the main branches in which we participate as a chapter and school Professional we highlight the branch of research and technological innovation that was precisely one of the most important aspects that we seek to develop among the members of our chapter which allowed us to obtain great results such as:

We also highlight the technical knowledge of our members who were prepared during arduous days to represent our school in such a great event, where great results could be obtained based on the dedication of our colleagues.

As a student chapter, we are proud to highlight the work of all our members, and we also make a special mention to our members who had an outstanding participation:

Figure 12. Members of our Student Chapter in the final of the mining ventilation contest
2nd place: Enzo Rosado, Jordi Alvarez
Finalist: Víctor Choque
Figure 13. Members of our Student Chapter in the final of the drilling and blasting contest
Finalists: Vladimir Flores
Finalists: Juan Diaz, Braulio Echevarria

Figure 14. Members of our Student Chapter in the final of the innovation contest
3rd place: Vladimir Flores, Braulio Echevarria, Victor Salas
Figure 15. A member of our Student Chapter being awarded in the mine planning contest
2nd place: Jesús Luque

Figure 16. Members of our Student Chapter being awarded in the scientific research contest
2nd place: Kevin Collantes, Jesús Luque
BONUS TRACK

Figure 17. Lunch Day with the members of the Student Chapter

Figure 18. Some of our members tasting a variety of drinks
Figure 19. Taking a walk

Figure 20. Pool Day
Figure 21. Our internal table football competition

Figure 22. Study Day