



Newsletter

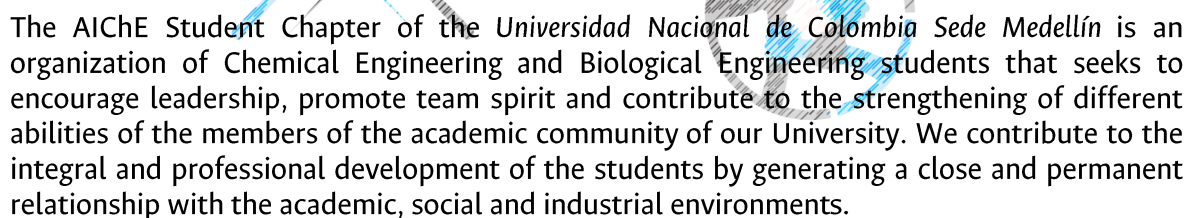
Activities Recap 2017-II



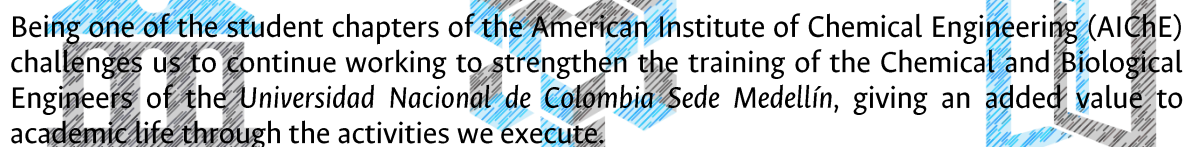
UNAL MED
STUDENT CHAPTER



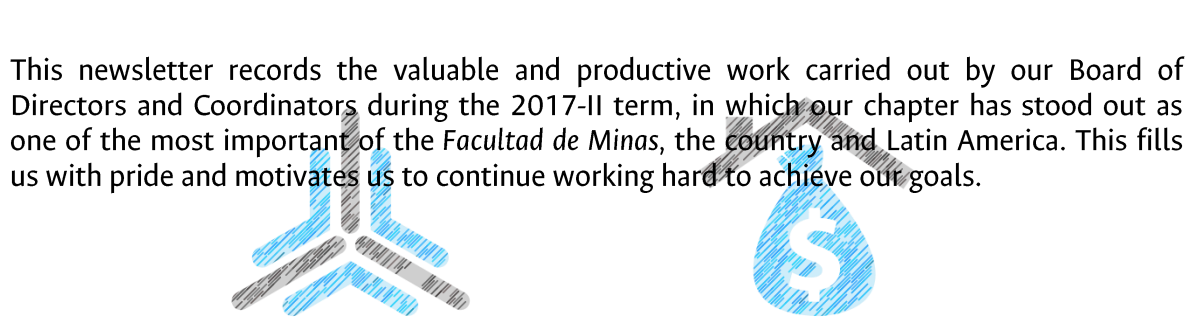
Introduction



The AIChE Student Chapter of the *Universidad Nacional de Colombia Sede Medellín* is an organization of Chemical Engineering and Biological Engineering students that seeks to encourage leadership, promote team spirit and contribute to the strengthening of different abilities of the members of the academic community of our University. We contribute to the integral and professional development of the students by generating a close and permanent relationship with the academic, social and industrial environments.



Being one of the student chapters of the American Institute of Chemical Engineering (AIChE) challenges us to continue working to strengthen the training of the Chemical and Biological Engineers of the *Universidad Nacional de Colombia Sede Medellín*, giving an added value to academic life through the activities we execute.



This newsletter records the valuable and productive work carried out by our Board of Directors and Coordinators during the 2017-II term, in which our chapter has stood out as one of the most important of the *Facultad de Minas*, the country and Latin America. This fills us with pride and motivates us to continue working hard to achieve our goals.



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Board of Directors 2017-2018



At the beginning of the second semester of 2017, a new Board of Directions took office. It is formed by Chemical Engineering students of the *Universidad Nacional de Colombia Sede Medellín*. From left to right in the photo: top - Jocsan Zúñiga (Logistics and Welfare Director), Milena Yepez (Logistics and Welfare Deputy Director), Susana Ramírez (Executive Director), Natalia Vélez (Executive Deputy Director), Yesenia Castaño (Academic Deputy Director), Sara Duque (Vice president), Mario Franco (Financial and Strategic Director). Bottom - Mayra Bejarano (President), Cristian Beltrán (Academic Director), Jefferson Quiroz (Auditor), Aura Alvis (Financial and Strategic Deputy Director), Aura Ramírez (Secretary).

We got close to the industry

This semester we did an important rapprochement to several sectors of the national industry, in order to strengthen the integral and professional formation of our futures engineers, by developing different activities.



The **industrial visits** allowed the contact of our members with diverse production processes that put into practice the academic knowledge acquired in the classrooms. The visits included tours of the production plants, explanation of the operations and a souvenir of each company's products. Thanks to the proactivity of the current Executive Direction, we visited companies all over Medellín and we had the second version of industrial visits outside of our city, this time in Bogotá, expanding our

members' vision of the process industry in the country.

In addition, as part of our goal of getting closer to professionals from areas related to our careers, we came up with the idea of a new event: **El Algo con la Industria** (The Snack with the Industry), which is an informal meeting with a professional in which we share a delicious snack while academia and industry meet to talk. This activity was free and addressed to the entire university community.

Industrial Visits in Medellín:

We visited **Noel, Invesa, Pintuco, Andercol, Premex, Enka de Colombia and the Argos Innovation Center**, recognized industries of our region. Each of them has a different production approach that applies the unit and chemical operations learned in the academy, so we got to know at first hand the versatility of the field of action of the chemical and biological engineers.



Maria Paula Giraldo, chemical engineering student and AIChE Member, says: *"It's very interesting for us as students to get inside the plants and see closely the processes where academic concepts are applied to the elaboration of every day products"*



Industrial Visits in Bogotá:



The city of Bogotá was the destination for the second version of industrial visits outside of Antioquia. Held in the third week of August, its main objective was to learn about the production processes of one of the most important industrial zones of Colombia. Camilo Suárez, Professor of the Facultad de Minas, accompanied us in this awesome trip.

We visited the following institutions: Pelikan, Casa Luker (Cleaning), Solla, Belcorp, Doria, FiberGlass, Alpina, Bimbo and Industrias FIQ, which allowed us to know their history, processes and the economic, productive and innovative growth they have brought to the country.

We also visited the Chemical Engineering Laboratory of the Universidad Nacional de Colombia Sede Bogotá and the Universidad EAN, where the assistants participated in a workshop about Sustainable Entrepreneurship and Design Thinking.

Alix Barragán, member of our Chapter, points out that “activities such as these allow the student to bring to reality the knowledge acquired in the classroom, (...) realize that everything that’s written in the textbooks is really used and, above all, they allow the student to get to know the extensive kinds of industries in which he or she could perform as an engineer. Each visit was well planned and the schedule they gave us was accurate. I hope more and more students have the opportunity to visit new industries and live experiences like these”



In addition, during this week we also had time to have some fun and experience cultural plans in the city: we visited some of the most representative zones of the capital of our country and created friendship bonds with our classmates.



Algos con la Industria (The Snack with the Industry):

El Algo con la Industria is a new and remarkable activity that provides a space for open dialogue and allows the student to know about a particular company and the role played in it by the chemical or biological engineer, based on the individual experiences told by our guests (engineers) while we share a snack with the university community.



On August 11 we had the presence of León Darío Ospina, chemical engineer and commercial manager of Polikem S.A, who gave 25 students a different view of chemical engineering and its job possibilities. In addition, chemical engineer Nicolás Sánchez came from Bogotá in October; he is deputy manager of Industrias FIQ S.A.S., which is a leading company in environmental solutions for the industry that focuses on the treatment and recovery of solvents.

About this, Mayra Bejarano, President of our chapter, says: *“El Algo con la industria is to me the perfect space for our work and academic minds to meet and train for the real world”*

Our Sister Chapter: AIChE @ University of Michigan



During the second semester of 2017 we kept close to our Sister Chapter of the University of Michigan. Catalina Bonilla, our Public Relations Officer, and Jared Molesky, from the UM, coordinated a T-shirt Exchange in the setting of the 2017 Annual Student Conference, held in Minneapolis, MN, USA. This activity set up a virtual interaction between the members of both chapters, expanding our members' point of view and allowing us to initiate bonds of friendship.

On that subject, Jared says: *“The t-shirt exchange was a great opportunity to finally get to meet face to face with our sister chapter! Plus, we were able to turn that memory into something physical with the awesome t-shirts that we got. We all wear our shirts all the time as a reminder of our awesome sister chapter!”*

In the photo: The Board of Directors of the AIChE UNAL Med Student Chapter wearing the chemical engineering t-shirts of the University of Michigan.



Workshops, Talks and Conferences

The Academic Direction developed several academic activities during this semester, so we could offer our members and the university community in general a comprehensive formation as engineers.



First we had an **Orientation Workshop on the Chemical Engineering Curriculum**, at the Facultad de Minas, which was attended by the Student Representation. Later in the semester we carried out a **Conference about Biofuels**, directed by Carlos Andrés Álvarez from the ICESI University. Finally, along with the Coordination of Professional Internships of our faculty, we coordinated a **Talk about Professional Internships**.

Yesenia Castaño, Academic Deputy Director, states that *“the people who developed the activities were prepared in the subject of each event (...) and these activities were completed with satisfaction and provided feedback to continue with the development of academic activities of interest to the university community”*

English Conversation Club

English

• CONVERSATION CLUB •

During this semester we held an English Conversation Club directed by Nagi Hakim, a student from the United States who came to our university with the Fulbright Exchange Program. We discussed about the academy in his country and ours, and he

told us about the vacation jobs (internships) related with his major to gain experience. He also shared his college experience with us, letting us know how learning can be independent.

Susana Ramírez, Executive Director, thinks that these events are really important for the integral formation of the contemporary engineer because they allow the participants to lose the fear to express themselves and to think in another language, which is a determining factor in the globalized world we live in. *“Definitely, it’s an activity that I’ll return to”*, she added.



Mujeres en la Ciencia e Ingeniería (Women at Science and Engineering)

One of the main events we held this semester was the project we carried out together with the Welfare Department of our university. Through a call that included other student groups of the university, we presented the project *Mujeres en la Ciencia e Ingeniería* (Women at Science and Engineering), which was selected and supported by the Welfare Department and developed by the AICHE UNAL Med Student Chapter in September.



We had the idea from some studies by the American Society for Engineering Education that report that “the presence of women in engineering is lower compared with careers like law, medicine and accounting”; in addition, based on statistics of women participation at our university, it is

noted that in the *Departamento de Procesos y Energía* of the *Facultad de Minas*, only 3 women are part of the group of teachers, maybe because of the wrong idea about engineering being a heavy task that cannot be carried out by women, while there is a greater reception of women in the field of research given that almost 80% of teachers of the *Facultad de Ciencias* are women.

With this project, we made visible the role of the woman in science and engineering from the research and industrial context and we promoted their inclusion by determining their challenges and opportunities. Besides, we tried to break the paradigm of the role of women in engineering and science, empowering future female engineers in their role in society.



Women from academic and industrial fields participated in the project “*Mujeres en la ciencia e ingeniería*”, which consisted of 5 different activities: 4 conferences and a discussion group. These activities were carried out successfully with the participation of around 100 students of chemical or biological engineering, and other programs. In addition, we gave souvenirs to the attendees and speakers, which included pencils, mugs and shirts.



We celebrated 50 years of Chemical Engineering

In 2017, the Chemical Engineering program of the *Facultad de Minas* of the *Universidad Nacional de Colombia Sede Medellín*, completed 50 years of being a process with global impact. For two years the Organizing Committee of the 50 years of the program and the AIChE Student Chapter worked together to carry out several academic and recreational activities in the setting of such an important celebration. These events were addressed to the entire IQ community, both students and professionals.

Jefferson Quiroz, Auditor, said that “participating in the development of the 50th anniversary project was a rewarding experience, not only for the success we achieved in the execution of the ideas and activities, but also for celebrating the achievements of a career that unites students, graduates and professors, leaves us great challenges and questions for the future, makes us proud every day and encourages us to continue growing as a profession.”



As part of the celebration of the 50th anniversary of Chemical Engineering at the *Facultad de Minas*, we held Aspen and Matlab workshops, a conference on Membrane Technology and a certified course on Safety of Industrial Processes, events that brought together topics of interest for our professional training. Additionally, the *Tardes de Ingeniería Química “Un Café entre Ingenieros”* (Chemical Engineering Evenings “A Coffee with Engineers”) was the most attractive event for students and graduates consisting of openly discussing topics related to chemical engineering through the experience of chemical engineers from the academic, research and work fields. We had several

guests from industry, teachers, graduates and retirees, and we talked to them while enjoying some coffee.

In the last week of November 2017, we held the **Chemical Engineering Academic Week**, where we developed conferences, workshops and courses about subjects attractive to the university community and graduates. The following activities were carried out: A



Discussion Group on Current Events at Chemical Engineering, a Workshop about CVs, a Conference on the History of Schnapps in Colombia with a musical intervention, *Tarde de Ingeniería Química* “Talking with Smith”, which was attended by the PhD Carlos A. Smith from the University of Florida, a Conference about Wastewater Problems and Legislation, and the final *Tarde de Ingeniería Química* “Reengage with your career”, in which we had a toast for our profession.

Finally, we had the final celebration of the anniversary of our program on November 25, which was attended by educators, students and graduates.



AIChE Chemical Engineering for Good Challenge

During the second semester of 2017, the Financial and Strategic Direction handled our chapter’s participation in the international competition AIChE Chemical Engineers for Good Challenge (ACE4G), which takes place every year worldwide and consists of proposing alternatives to solve a micro scale problem, applying chemical engineering principles. This activity was carried out by some members of our chapter, the presidency and the auditor (at the photo), and had the support of our advisor Alejandro Molina and our professor Ángela Adriana Ruiz.



About it, Mario Franco, Financial and Strategic Director, says that “we tried to have inventiveness and guidance by the teachers of the Departamento de Procesos y Energía in order to be able to propose together a viable solution to a problem in the national territory. This challenge was good for us to realize our chapter’s ability to get its members involved in extracurricular activities framed in the empowerment of chemical engineering knowledge and project formulation, in addition to promoting teamwork and leadership, which are pillars of current professional training.”

Voluntariado AICHE (AICHE Volunteering)

It feels so good to contribute to a good cause! In the AICHE UNAL Med Student Chapter we encourage our members to share their time and knowledge with those who deserve it with our new activity Voluntariado AICHE (AICHE Volunteering), which had 2 versions throughout the semester.



The first Voluntariado AICHE was carried out in the Elementary School of the Universidad Nacional de Colombia Sede Medellín (Escuela UN) and was about making the kids get to know some basic chemistry concepts through visual experiments. This activity was supported by the teachers of the Escuela UN and Astrid Sánchez, Associate Professor at the Facultad de Ciencias of our university.



The second Voluntariado AICHE was held at El Hogar de Alicia Foundation in November 2017. This is an institution located in Caldas, Antioquia, that rescues and cares for dogs and cats. Our chapter’s volunteers took the dogs to walk around some ravines and mountainous zones, and we also managed to donate concentrate and money to the foundation.

At the photo: Aura Alvis, Financial and Strategic Deputy Director, walking with Brenda through the mountains of the region. Aura said that “it was a very pleasant and



enriching experience, both with the children of the Escuela UN and the dogs of the foundation. From both I learned the importance of participating in these activities with academic support and company for those who need it. In addition, activities like these help us grow as people and be more supportive and attentive with everything that surrounds us”

We also had time for fun



As a Student Chapter, we also promote integration spaces for our members to have a recreation time and a direct contact between them, which facilitates socialization among students from different directions. During our integrations we also recognize some of our outstanding members and welcome the new ones who join our AIChE Family.

During the second semester of 2017, the Logistics and Welfare Direction developed 2 **Integrations** addressed to our AIChE Plus members. With a total of 19 attendees, the first one was set in September to celebrate the Day of Love and Friendship, as well as facilitating our members' interaction and meeting those who joined the chapter at the beginning of the semester. There were several recreational activities planned by each direction, which also were good to strengthen the teamwork carried out by the entire AIChE Family.



The second Integration was a Christmas event with 24 attendees that experienced fun activities and a great set of traditional food worthy of the festivities. We ate *natilla*, *buñuelos*, cookies, dessert and a fruit cocktail, with which we made a toast for all our work done during the semester. In addition, our Christmas Integration was the perfect occasion to hold the awards of the AIChE del Semestre (AIChE of the semester).





Additionally, the **Talents Night** was an event held in the middle of the semester. It was an open to the public integration, with our AICHE Members as special guests, in which we had artistic performances of some members of our chapter, like singing and dancing performances, and music interpretations of chamber and rock music. Throughout the activity, the

attendees could enjoy a table full of traditional desserts and gummies while having a good time with their friends and classmates.

“We had a series of integrations that gave the necessary importance to the welfare of the members of the chapter. These activities were planned in advance to fit a theme according to the time of the year and the most outstanding dates of the semester. The events had good attendance and were successfully completed, leaving great memories and motivation to continue with this type of activities in the future”, said Milena Yepez, Logistics and Welfare Deputy Director.

AICHE del semestre (AICHE of the semester)

In recognition of their dedication to work in the chapter's activities and setting an example to follow by the other members of the chapter during the semester 2017-II, Natalia Piedrahita Vélez and Luis Eduardo Sepúlveda Echavarría were elected as the AICHE del semestre in the categories Board of Directors and Coordinators, respectively.

Natalia is our Executive Deputy Director and has been very active during all the time she has dedicated to the AICHE UNAL Med Student Chapter, specially coordinating the industrial visits inside and outside Medellín, while Luis stood out for his participation in numerous activities developed by the chapter, both as an assistant and organizer, maintaining the Logistics and Welfare Direction's good name.

Natalia and Luis each received a mug, free passes to the cinema and a no-charge participation in the third version of industrial visits outside Medellín, held in Cali next February. We hope to continue with this type of incentives so that our members feel motivated and encouraged.





Mayra Bejarano, President, thinks that “it’s very gratifying to be able to reward the effort and commitment of our AICHE Plus members because this encourages the students’ enthusiasm and motivation to belong to the student group and to achieve all the objectives we propose in the chapter”. In addition, she highlights that the AICHE del Semestre started as a monthly award, but it was decided to expand it to a longer time in order to evaluate better the performance of each of our members.

Our Recognitions

For the second year in a row, our AICHE Student Chapter of the Universidad Nacional de Colombia Sede Medellín was awarded as an **Outstanding Student Chapter**. We received the prize during the 2017 Annual Student Conference held in Minneapolis, MN, USA. This award recognizes the student chapters around the world with the highest level of activity, leadership and intervention in the academic processes of the





University and the Chemical and Biological Engineering community, and was received for the team work carried out by the Board of Directors and the Coordinators during the presidency of the Chemical Engineering Student Jefferson Quiroz Fabra. Among the winning chapters, we are still the only one from Latin America to receive this recognition, a fact that motivates us to continue working with more dedication.

At the photo: Sara Cure Zapata, Vice president of the AIChE UNAL Med Student Chapter during the 2016-2017 period, receiving the award from Bond Calloway, President of AIChE.

Alejandro Molina, Professor of the *Departamento de Procesos y Energía* and our chapter's Advisor, mentions that *"for the second time in a row, the AIChE Student Chapter of the UN in Medellín won the prestigious Outstanding Chapter Award, which is awarded only to the chapters that demonstrate an exceptional level of participation, enthusiasm, quality programming and contribution to the development of the university and the community. It is estimated that only 10% of the AIChE student chapters receive this recognition annually, a fair reward for the great work done by the students of the Medellín Chapter"*.

Besides, Susana Ramírez Restrepo, current Executive Director, received the **Donald F. Othmer Sophomore Academic Excellence Award**, and Aura Alvis, current Financial and Strategic Deputy Director, received the **Freshman Recognition Award**, which are recognitions granted by AIChE due to their great academic level and commitment to the chapter.

These awards, which recognize the hard work of the members of our chapter, fill us with joy and motivate us to continue working for our AIChE Family.



Participation of Kamokara team in the Annual Chem-E-Car Competition, held in Minneapolis.

For the first time, our chapter participated in the Chem-E-Car Competition® held during the 2017 Annual Student Conference, in Minneapolis. To participate in the Annual Competition, they had to win during the V Technical Seminar on Chemical Engineering and Biological Engineering - Procesa 2017, held from March 13 to 17, 2017, where the second Latin American regional competition of the Chem-E-Car was held.

The Kamokara team participated with their car "Hydrocar", which works with a reaction of hydrogen production using NaOH and Al. At the same time, another reaction known as the iodine clock occurs for braking the car.

Sara Cure, current team leader, and member of this project since its creation, says: "The experience of belonging and leading the team of Chem-E- Car for two years, was very enriching, full of challenges and learning. Undoubtedly, the trip to the United States showed us everything that is within our reach, our capabilities and opportunities to keep improving".



Developed by:



**SUSANA
RAMÍREZ RESTREPO**
Executive Director



**NATALIA
PIEDRAHITA VÉLEZ**
Executive Deputy Director



**MAYRA ALEJANDRA
BEJARANO BARAHONA**
President



**SARA
DUQUE MARTÍNEZ**
Vice President



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