

# ELAVIO 2022

## Latin-American Summer School in Operations Research

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### REPORT

The “Escuela LatinoAmericana de Verano en Investigación Operativa” (ELAVIO) took place in Monterrey, Mexico in the second week of June 2022. After the pandemic had cancelled the previous two events, I was very excited to attend ELAVIO this year. I am undertaking my PhD at the University of Antwerp in Belgium and have grown up most of my life in Belgium as well. However, I am originally from Ecuador. Therefore, attending this summer school seemed like a great opportunity to reconnect with my roots by experiencing the academic culture and by meeting new colleagues that work in a similar field in Latin-America.

The school started with a welcome greeting and dinner the day before the first class. Classes were held at the Tecnológico de Monterrey Campus, a very modern and large campus with many facilities for students. The schedule of the school consisted of two classes in the morning and two classes in the afternoon, from 9:00 to 19:00. Between the classes, there were a coffee break and lunch between the morning and afternoon classes respectively. Dinner was provided as well, after the last class every day. The classes discussed different subjects and were given by experienced researchers from Latin-America, Spain and France. There were different classes discussing the application of Operations Research (OR) methods to different problems, such as the optimization of stock cutting problems, travel location analysis, matching problems, home health care logistics and OR in the circular economy. Many of these problems were also applied in real life cases. Other classes were more fundamental in nature such as the classes about stochastic programming, the influence of the maximization problem and a workshop for the use of Gurobi, a commercial optimization solver, with a Python interface. The last class discussed FICO, a custom analytical decision making software that makes use of OR techniques. This was an interesting insight into the application of OR in the industry. There were also moments planned for the students to present their own research in 20 minutes, with some room for questions. There were four time slots planned for this, with two parallel sessions in each timeslot. In each session, up to six students could present their research.

Although the classes were rigorous and the days were long, there was still time to relax and to socialize with the other members of the school. On the first day of the classes, a gala dinner was provided after the classes. This was a good opportunity to meet and talk with the other researchers. On the third day of the classes, we were treated to lunch at a well-known restaurant in the city centre. The restaurant served high quality Mexican food and this opportunity allowed us to also further meet new people. In the afternoon after the lunch, we were free to explore the city centre and return either by bus, which was provided by the summer school, or by our own means. During this afternoon, we got the chance to experience a bit of the daily life and culture in Monterrey as well as further network with our new colleagues. We had the chance to visit some museums, explore the historical centre and walk in the modern city park “Parque fundidora”. Monterrey is a modern city surrounded by beautiful mountains and national nature parks, a truly unique combination.

In conclusion, I have to say that ELAVIO 2022 was a success. I truly enjoyed this experience since it allowed me to meet other researchers and learn a lot about new interesting OR topics. I also appreciated presenting my own research as well as hearing about the research of the other students, especially the sessions about public transport and vehicle routing, since these relate to my research topic. I am sure I will meet some of my new colleagues again and hopefully collaborate with them in the future. I hope these summer schools keep being organized, since they provide a meaningful experience to young researchers and I also hope I can join once more in the future.

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