



Wednesday, March 10, 2021

Iniciativa Científica Milenio

Agencia Nacional de Investigación y Desarrollo (ANID)

Ministerio de Ciencia, Tecnología, Conocimiento e Innovación de Chile

The purpose of this letter is to express our keen interest in establishing a long-term collaboration with the proposed *Institute for Optimization and Statistical Learning*, based in Chile. The mission of the proposed Institute lies at the cutting edge of research areas that we consider vital to the development of Computer Science, Operations Research and Statistics. The proposed team is composed of researchers with a strong international reputation and an impressive record of accomplishments. We have had long term research interactions with members of this team, and the creation of the proposed Center would provide an opportunity to renew and strengthen collaboration with our own OSL Center.

We envision the following synergistic activities between our OSL Center and the proposed Institute.

1. **PhD Student Exchanges.** It would be of much interest to us to have Chilean students spend part of their PhD studies at Northwestern. We would benefit from the talent and energy of young people with a strong background in statistics, optimization and computer science, and who are being supervised by faculty at the proposed institute. This student exchange would enable us to initiate new research collaborations that would support the mission of both institutes.
2. **Faculty Visits.** Building on our previous and current research collaborations with Chilean researchers, we would be very interested in supporting short and long terms visits from members of the proposed Center. A close collaboration of this kind would allow us to jump start projects on new topics in optimization and statistical learning. Some members of our OSL Center would also be keen to visit the proposed Institute in Chile as part of this collaboration
3. **Joint Seminar Series.** We would welcome the creation of a seminar series sponsored by our OSL center and the proposed Institute. This would strengthen our current seminar series, providing wider dissemination, increasing its attendance and expanding its scope.
4. **Industry Collaboration.** We would be interested in exploring industrial partnerships in the US and in Chile. Optimization and Statistical learning are core technologies in the creation of new intelligent systems that are revolutionizing medicine, operations research, information science, and many other fields. A natural extension of our basic research is its application in industry, which will in turn lead to new open problems motivated by the requirements of high tech research centers and laboratories.

We are very excited about the prospect of a new Institute for Optimization and Statistical Learning in Chile. Over the decades, Chile has become one of the world leaders in optimization, both pure and applied, and has also established a strong reputation in statistics. Given the important developments of the last few years, the stage has been set for a new kind of research that lies at the intersection of these two disciplines – one closely relevant to the rising field of machine learning. The collaboration between our OSL Center and the proposed Institute has the potential to give rise to innovative research with societal impact. I enthusiastically support the creation of the new Institute.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jorge Nocedal', with a stylized flourish at the end.

Jorge Nocedal
Director
Center for Optimization
And Statistical Learning