PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE (PUC) TAPS INTO CHILE'S DIVERSE GEOGRAPHY

A conversation with **IGNACIO SÁNCHEZ**, president of Pontificia Universidad Católica de Chile (PUC)

Pontificia Universidad Católica de Chile (PUC) is the nation's research powerhouse. Publishing more than 2,400 Scopus articles per year, the Santiago-based university is both a Latin American gateway for collaboration and a player in several international collaborations, its president, Ignacio Sánchez, explains.

Why is PUC a great university to collaborate with?
Some of our research areas are very well positioned internationally, such as astronomy, biology, medicine, engineering, arts, and social sciences, among many others. As a leading university in Latin America, we have a reputed academic body, a strong doctoral programme, a well-developed research focus, and a unique geography that makes us an interesting partner in joint research.

How does PUC's geographic location provide global research opportunities?
PUC has developed a network of field stations throughout the country. One is in the Atacama Desert in the north of Chile, an area with some of the highest solar radiation in the world, making it an ideal place to research water capture in arid environments. Another, in Patagonia, provides amazing biodiversity. Our coastal research station includes a protected area in a pristine environment in central Chile, ideal for marine conservation. The Chiloé Island station focuses on research regarding conservation and sustainable management of the forest as well as Puerto Williams (Antarctic gateway). Finally, our campus in the lake district (Villarrica campus), where most of Chile's indigenous population (Mapuches) lives, allows us to study sustainable local development.

What about PUC's location makes it good at addressing these issues?
Chile is the longest country facing the Pacific Ocean, and it has a coastline of thousands of kilometres, while also being sheltered by the Andes Mountains. Our different climates provide unique features for different types of research. The arid north is excellent for astronomic purposes: Chile holds 70% of the world's astronomical observatories and is also a lab for extra-terrestrial technologies. Our extreme conditions allow researchers to study extremophile microorganisms, both in the north and south of Chile. Our university's research is conscious of this uniqueness, and takes advantage of these features.

How does PUC offer collaborators a gateway into Latin American issues?
We are part of centres of excellence on social conflicts and cohesion, on educational justice and on intercultural and indigenous studies. We also host a centre on sustainable urban development, and the J-PAL Center for Latin America and the Caribbean, a Poverty Action Lab originally established at MIT, which addresses the implementation of development policies in our region, among many other centres of excellence.

How does PUC innovate in research?
We are pioneers in creating new flexible curricular structures that promote early-stage research and foster innovation and entrepreneurship skills in our students. Our Center of Innovation is a recognized national hub whose aim is to promote the development of innovative technologies.

It hosts a variety of resources including a business incubator, a technology transfer office, a venture capital fund and a corporate-sponsored research office.

What are some examples of technologies developed by the university?
We have been recognized as the leader in obtaining patents in our country for two consecutive years. For example, the Faculty of Engineering has developed anti-seismic technologies to improve the structural integrity of buildings during earthquakes. These innovations have resulted in a spin-off for the university, positioning PUC as a global leader in anti-seismic technologies. Our innovations cover a wide spectrum of fields, ranging from the development of new breeds of raspberries and the development of a detection kit for an accurate diagnosis of thyroid cancer to new solutions for social housing developed by our Pritzker Prize winner, Alejandro Aravena.

What have been some of PUC's recent successful global research collaborations?
PUC participates in global initiatives in high-energy physics, such as Daya Bay, CERN and Juno, and we also have strong collaboration in astronomy and astro-engineering with the telescopes and observatories based in Chile. We host and collaborate in several international joint centres based in Chile, such as the International Associated Laboratory on hantavirus and the International Joint Unit on biology and ecology of algae. We also participate in international centres of excellence for research and development that have been installed in Chile, including one in solar energy together with Fraunhofer from Germany; one in marine energy, which is a joint effort with Naval Group from France and Enel Green Power from Italy; and one in information technologies with INRIA from France.

What would surprise people unfamiliar with PUC the most?
PUC has not only made the most of the capacities of our country's unique features, but has done some outstanding work toward the global enrichment of knowledge. I would also highlight the quality of our students and academic and scientific staff. For instance, our researchers in biology and biotechnology are in the process of implementing new vaccines and therapies to benefit mankind, such as the respiratory syncytial virus vaccine, currently undergoing clinical testing.

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

Nº1
University in **Latin America**
(2018 QS Latin America University Rankings)

Founded in
1888

112
Partner companies in PUC Innovation Centre

35
PhD Programmes

668
Academic **cooperation agreements with 59 countries**

40
Interdisciplinary **Centres of Research**

More than
24.000
Undergraduate **students**

More than
4.000
Postgraduate students

22
Research Centres of **Excellence**

2.400
Scopus articles published per year

Nº1
In national patent applications

More than
700
Research projects

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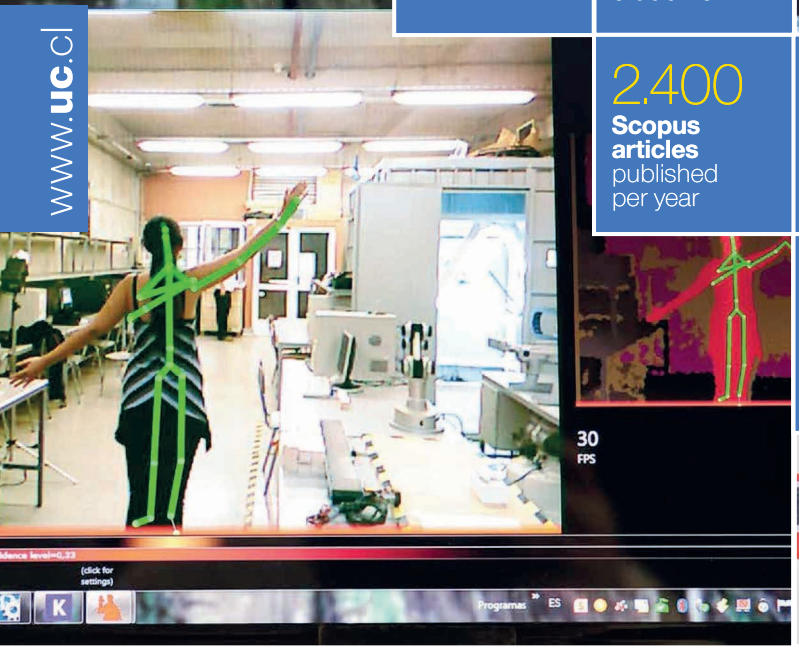

Generating **knowledge** and **cutting-edge research** from Chile to **the world**

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