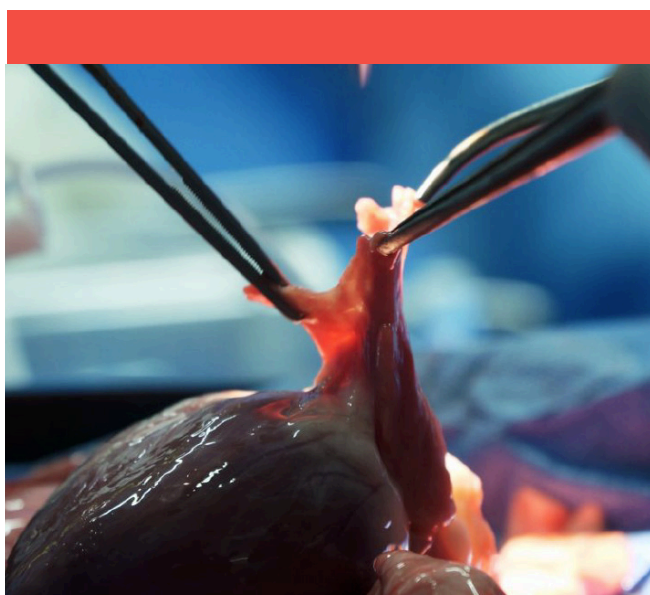


PIGS, SEEDS AND NEW BETS FOR GOOD RESEARCH

In the quiet south of Colombia, far from the capital of Bogotá, researchers from Universidad del Valle are **TAKING ADVANTAGE OF LOCAL CREATIVITY AND BIODIVERSITY** to establish the Valle del Cauca as a regional centre of development in agricultural and health business.



At Universidad del Valle in Colombia, a group of 20 scientists led by Professor Jose Oscar Gutierrez Montes

have successfully completed a pig-to-pig lung transplant using a stem-cell based approach. The recipient, called Pachorrón, received the new lung a year ago and has been living happily since without the need for immunosuppressive medication.

According to Gutierrez "this represents a turning point in transplantation medicine". Indeed, this achievement relies on a recently patented chimaera technology that allows organs to be prepared so that the immune response is suppressed once they are transplanted into the recipient's body.

The researchers have since developed a related approach that could extend these techniques to humans and help to reduce the enormous costs of immunosuppressive therapies that today accompany transplantation.

This accomplishment is the result of more than two decades of multidisciplinary research involving local hospitals and research groups from health and materials engineering schools, fostered by the vice-presidency of research at Universidad del Valle. It follows other achievements, including a recently patented innovation for the preparation of nanostructured photo-sensitive compounds to help fight cancer and an external fixation device for bone fracture reduction that just hit the market in Colombia, Panama and Ecuador.

Today, the vice-presidency for research is building on these achievements by encouraging young scientists and entrepreneurs and follow them with dedicated programs, convinced that high quality

research will have a positive impact on the region.

RICH BIODIVERSITY

In equatorial zones, the climate is mild. The countryside is green. Sun and rain alternate. All this makes for a biodiversity hotspot -- and a honeypot for researchers seeking new microbes. One such investigator is David Johnston-Monje, the principal investigator of a Tandem Group with the Max Planck Institute for Plant Breeding Research. This young scientist has pioneered research on endophytes - microbes that are found inside seeds - which were recently shown to have a significant impact on plant growth, fruit size and flavour.

Using biotechnology and metabolomics, the group is tracking plants to study their interactions with microbes, hoping to unveil beneficial organisms. Such research has the potential to improve the competitiveness of the agricultural sector and opens new green business opportunities with super seeds as a means to address climate change and world population growth. For the vice-presidency of research, this new hire will help consolidate the local ecosystem for agricultural research which also includes the recently created Center for Research and Innovation in Bioinformatics and Photonics (CiBioFi) where data analytics and photonics are being used as a predictive tool for sustainable agriculture development.

