

4 Tec research projects that are having an impact on Mexico



These projects, involving researchers, professors and students from Tecnológico de Monterrey, are creating synergies with different stakeholders.

29/01/2019

Four research projects considered paths toward a **better Mexico** were presented at the **49th Research and Development Forum**, hosted by the Monterrey campus of Tecnológico de Monterrey.

These **projects** are divided into **different strategic areas** for the country's development:



1) An ophthalmic anti-inflammation drug which avoids invasive methods



Dr. Arturo Santos (right) and his team.

This project, led by Dr. Arturo Santos, consists of the development of an **ophthalmic drug** for the treatment of **diabetic and non-diabetic macular edema**, a condition that can cause **vision loss**, through a **noninvasive platform**, reducing risk to the patient.

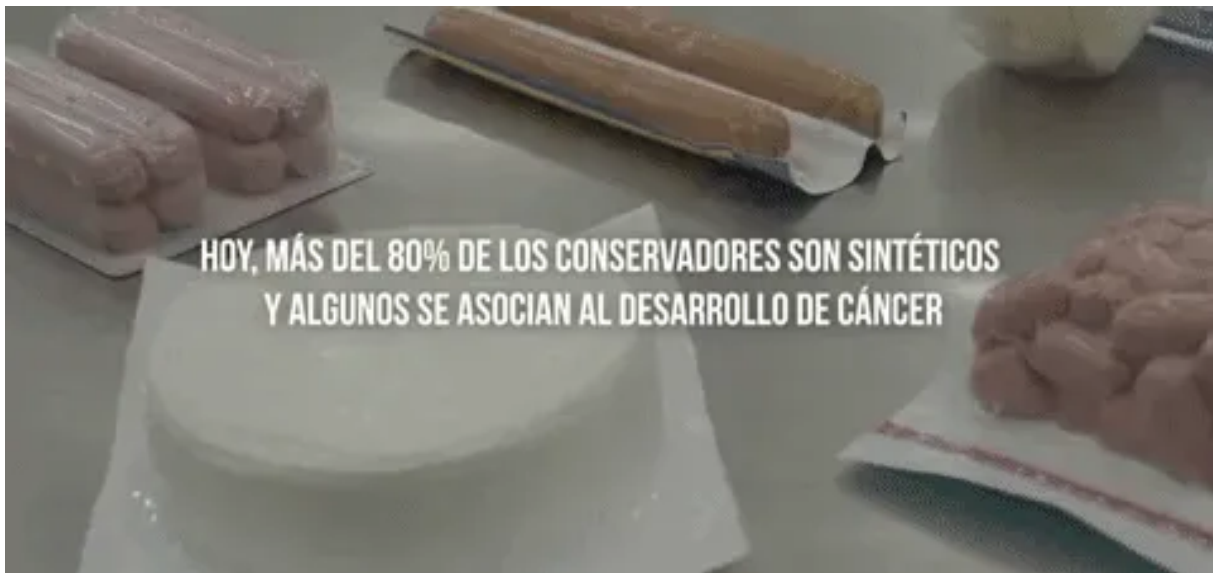
*“Although new therapies currently exist, these require that medication be administered via **intraocular injections**, which are **very expensive** and **limit access** to treatment,”* commented Dr. Arturo Salinas.

*“Our treatment allows the **eye ‘barriers’** to be broken down in order to treat macular edema by **applying eye drops**. This enables them to have a **massive impact**,”* he indicated.

- *This project was awarded the National Prize for Technology and Innovation.*

2) Additional properties of avocados discovered





Dr. Carmen Hernández receiving an award from Salvador Alva.

This project discovered **molecules in avocado**, such as **acetogenins**, with **antibacterial** and **antimicrobial properties** which serve as a basis for developing **Avosafe** and **Avocardio** products, with broad applications in the **pharmaceutical and food industries**.

Dr. Carmen Hernández Brenes' project has also proven the avocado's **antithrombotic properties**, which can help contribute to the **prevention of heart attacks and embolisms**.

*"We never imagined the long road that awaited us (...) We have 500 inventions from the Tec, 30 of which are suitable for transfer to society. **AvoSafe is among the first three**,"* she pointed out.

"I was searching for a preservative that wouldn't cause cancer. This product made from avocado seeds doesn't cause cardiovascular problems," she said.

She also revealed that an MIT researcher who has taken part in NASA projects invited her to work with him.

- *Science Prize for Innovation from the UK Royal Academy of Engineering*
- *Innovators Under 35 Award from MIT Technology Review*
- *National Food Science and Technology Award 2017 from CONACyT and Coca Cola*

3) Sustainable wealth creation model





Dr. Carlos Scheel developed the **SWIT Model** (Sustainable Wealth creation based on Innovation and enabling Technologies), which seeks **to coordinate three large components of the biosphere**: the **economy**, **society** (human) and the **environment**.

This is about **creating wealth for a region** through **projects** that are **environmentally recoverable**, **socially responsible** and **economically viable**.

Dr. Scheel says that this event serves to demonstrate to the younger generations that the opportunities for helping the country lie in **applying knowledge** to **recover the planet's resilience**.

"It's more than just a project. It's an initiative that puts **sustainability within everyone's reach**."

*"It's about having a holistic awareness to understand **how nature resolves its problems** and learning from them in order to **innovate for a sustainable world**,"* he said.

- 23 projects have been carried out nationally and internationally
- 4 countries have put the SWIT concept into operation

4) The partnership that drives the development of sustainable communities



Collaborators from the CEMEX-Tec Center.

The **CEMEX-Tec Center** is a partnership created in 2010 whose purpose is to work together on synergies for **enabling urban and rural communities** in Mexico to have **better living conditions** and encouraging their **integrated development** with a vision of **sustainability**.

Dr. Mario Manzano's project addresses all aspects of **human development** from a **social, economic and environmental perspective**, the three pillars of sustainability.

***“Welfarism is not the solution.** We apply a model of participative community intervention that ensures **a sense of belonging** which is created with external*

resources,” assured Manzano.

- *More than 1,200 young trained environmental advocates*
- *76 entrepreneurial projects launched*
- *More than 1,200 people certified in self-help housing*

READ MORE NEWS AT CONECTA: