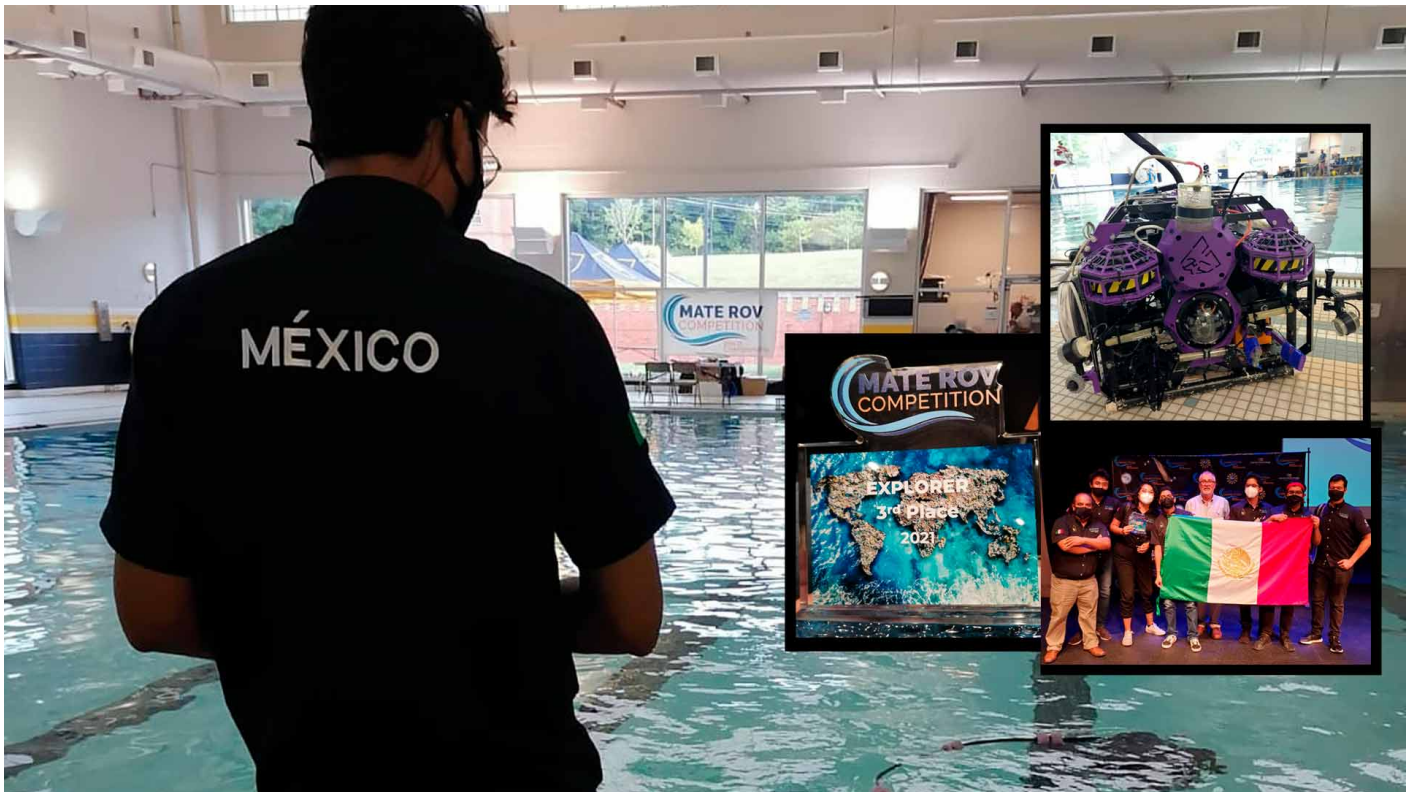


# Mexican students' submarine is the third best in the world



**TecXotic**, a team made up of 26 students from the [Tec Cuernavaca campus](#), achieved **“3rd Place Overall”** in the [2021 MATE ROV Competition](#) underwater robotics world championship.

The competition challenged **teams** from around the world to **design and build an underwater robot** capable of **solving ecological problems**, such as water pollution, garbage in the ocean, or the impact of global warming on coral reefs.

From **August 4 to 7, 2021**, the School of Engineering students competed at [East Tennessee State University](#) in the United States.

The Tec team **won the “No guts, no glory” awards** for **overcoming adversity** throughout the competition; and the **“Engineering Presentation Champion,”** for making the **best engineering presentation**.

*“It’s the **effort of many students and mentors** who have been **perfecting our submarines over five appearances**. Today, in the sixth participation, **we’re number three in the world,**”* says David García, team coach and engineering professor.



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## The underwater competition

Each year, [Marine Advanced Technology Education \(MATE\)](#) organizes an international competition to **encourage young people** around the world to **prepare for scientific and technical careers** by developing underwater robotic vehicles.

In this competition, the teams must meet various **underwater challenges** against the clock, focusing on the **role** that these **robots play in the ecological care of rivers and lakes**, as well as taking **care of the seabed**.

This year, 58 out of **300** participating teams from 14 countries reached the **world championships in the United States**. **TecXotic was the only Latin American team to participate**.

The name of the team's **Remote Operating Vehicle (ROV)** is **Kolob**. It was designed with a host of **sensors, motors for movement, underwater cameras, and a robotic arm with the ability to manipulate objects**.

*"There were problems throughout the competition: about 60% of the ROV's parts are 3D-printed, and they were damaged in transit.*

*"The 'No guts, no glory' award is for providing an intelligent and engineering solution to problems," says student and CEO of the team Aarón Pérez.*



### width="1920" loading="lazy"> Team adds awards to its list

The recognitions obtained this year have been added to the TecXotic team's list of awards that they've collected over the years:

- *3rd Place Overall (2021)*
- *No guts, no glory (2021)*
- *Engineering Presentation Champion (2021)*
- *Safety Conscious (2019)*
- *Most Valuable Person (2017)*
- *Judge's Choice Award (2015)*

*"Having won third place in the entire competition and knowing that it hadn't happened before in the **history of the team** made me value my work and that of the whole team much more,"* shares Aarón Pérez.



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The team is made up of **engineering students from the Cuernavaca campus** since the first semester. Graduates also participate.

Initially, **they worked online**, from different cities and states. In the last month, they managed to **meet up by following all the safety measures** required due to the COVID-19 pandemic.

***“Over the last five appearances, we’ve perfected our submarines. Today, in the sixth participation, we’re number three in the world.” - David García, team coach***

**The students that made up the 2021 TecXotic team:**

- *Aarón Pérez Ontiveros*
- *Alejandro Hidalgo Badillo*
- *Ana Bonavides Aguilar*
- *Bernardo Salgado Dorantes*
- *Brian Ismael Chávez Viveros*
- *Camila Rojas Alemán*
- *Daniel Hidalgo Badillo*
- *Daniel Moreno Solache*
- *Héctor Adriel Sanvicente Solís*
- *Hilda Rojas Alemán*
- *Ian Doring Romo*
- *Jael Abraham López García*

- *Jorge Abraham Vega Méndez*
- *Jorge Emiliano Turner Escalante*
- *José Julio Fragoso Figueroa*
- *Laura Arantzha Santos Flores*
- *Luis Gómez Talavera*
- *Manuel Camacho Padilla*
- *Mariana De la Rosa Batalla*
- *Megan Stephanie Martínez Andrés*
- *Merle Sofía Flores García*
- *Ricardo Rodríguez Figueroa*
- *Rosibel Nava Morales*
- *Sebastián Cruz Espinosa de los Monteros*
- *Valeria Valencia Ayala*
- *Ximena Ávila Villagómez*

**The team mentors were:**

- *David García Suárez*
- *Elizabeth Cruz Flores*
- *Jesús Eduardo Simental*
- *Javier Montiel García*

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