



Solar Decathlon Latin America & Caribbean 2019

Máquina Verde - El Arca

Carlos Alberto Hernández Correa, Martin Anzellini Garcia-Reyes, Juan Carlos Cuberos Acevedo, Jose Luis Bucheli Agualimpia, Sebastián Camilo Rojas Parada, Mónica Alexandra Muñoz Veloza, Roberto Giordano, Lorenzo Savio, Alfonso Gomez, Federico Nuñez, Fernando Cardona.



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**OXFORD
BROOKES
UNIVERSITY**



Solar Decathlon Latin America & Caribbean 2019 Máquina Verde - El Arca

Year: 2018-2019

Type: Invited Design Competition

Site: Santiago de Cali (Colombia)

Designers: Universidad Javeriana di Bogotá, Politecnico di Torino

The current supply of social housing in Latin American countries is often not adequate for the real needs of the population, generating situations of social conflict and permanent contraposition between the “formal” and the “informal” cities. The Pontificia Universidad Javeriana of Bogotá and the Politecnico di Torino participated together in the Solar Decathlon Latin America and Caribbean 2019 competition with the project Máquina Verde - El Arca, a vivienda social thought for the informal neighborhood of El Pozón, located in the periphery of the Colombian city of Cartagena de Indias. The project is based on the reinterpretation of the Caribbean house, starting from a study of the user needs, integrating industrial technologies - like the steel frame- and artisanal technologies -such as the tejidos in the façade-, with a strategy to reduce the environmental impact of the building in its life cycle. In December 2019 Máquina Verde - El Arca was built and tested by the students and professors of the two universities during the final phase of the Solar Decathlon in Cali, Colombia. The collaboration in the international competition was born as an innovative training activity based on PBL (Problem Based Learning) and “learning by doing” methodologies and has evolved into a shared research about the issues of environmental, social and economic sustainability for the architecture of social interest of the Latin American cities.

Project team

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Decathletes

Jose David López, Camilo Sepúlveda, Daniel Pinzón, Daniel Camacho, Isabella Olarte, Pamela Barriga, Diana Barrera, Yara Castiblanco, Daniel Rojas, Iván Guerrero, Lorena Go Nzález, Julian Olaya, Felipe Pinto, Camilo Rodriguez, Daniela Perez, María Caterina Dadati, Marco D’amico, Jordi Barrantes, Daniela Rodriguez, Manuela Duarte, Natalia Rodriguez, Camilo Rojas, Alvaro Regatero, Lina Sanabria, Ana Calle, Andrés Perez, Sebastián Campuzano, Lina Roballo, Andrea Escobar, Diego Gutierrez, Daniel Montenegro, Carlos Guatame, Laura Durán, Valentina Pico, Juan Bautista, Wendy Rodriguez, Juliana Jiménez, Andrés Cruz, Benedetta Quaglio, Federica Gallina.

Outcomes

In the Solar Decathlon Latin American y Caribbean 2019 competition, Máquina Verde - El Arca obtained two first prizes in the category “Ingeniería y Construcción” and “Diseño Urbano y Asequibilidad”, “, 4 second prizes in the categories” Arquitectura “,” Innovación “,” Eficiencia Energética “,” Consumo de Energía “and a third prize in the category” Comunicación, marketing y conciencia social “, for a total of 7 prizes in the 10 categories, awarding the second place in the overall ranking.







