



MARÍA EUGENIA CABRERA CATALÁN

Latin America & the Caribbean

Physics

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Dr. Cabrera Catalán is a physicist studying dark matter, the most abundant component of matter in our universe known only by its gravitational interactions and important to developing a more fundamental theory of nature. She studies the interaction between newly discovered particles such as the Higgs boson; understanding these dynamics can help scientists to understand the interactions that could be expected between weakly coupled dark matter particles in particle collider experiments, or seen by underground detectors that attempt to measure how dark matter interacts with the Earth.

Dr. Cabrera Catalán first became interested in physics in secondary school, thanks to a special physics teacher. She enrolled for a degree in the subject at the University of San Carlos of Guatemala (USAC), followed by a postgraduate diploma programme at the Abdus Salam International Centre for Theoretical Physics in Italy. There she became fascinated by high energy physics and made this the focus of her PhD research at the Institute for Theoretical Physics in Madrid, Spain. When she graduated in 2011, Cum Laude and with the distinction of Doctor Europaeus, she became the first woman with a physics degree from a public Guatemalan university to earn a PhD in the subject.

Following a postdoctoral position at the University of Amsterdam, during a second postdoc at the University of Sao Paulo in 2016, Dr. Cabrera Catalán learned that her alma mater USAC was opening permanent research positions in Physics and Mathematics for the first time, with 75% of time dedicated to research. Six months later she accepted one of these positions, making her the first (and until recently only) woman in her institute with a PhD. Now she is working to put her country and region on the world physics map, having helped to organize the first Central American Meeting of High Energy Physics, Cosmology and High Energy Astrophysics in 2020, and dedicating some of her time to supervising and tutoring undergraduate students in particle physics.

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Receiving this award reinforces my commitment to create and support initiatives to strength research programs in Guatemala. It empowers me to keep working to show Guatemalans the importance of being part of a worldwide effort to produce and spread scientific knowledge and build better societies.

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