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Patricia Martín Rodríguez

Patricia was born in Habana on 10 August 1985. She is an Associate Professor of the Department of Structures at the Technological University of Havana "José Antonio Echeverría" (Cujae). She obtained the PhD Degree in 2014.

Since 2008 her fundamental researches are related to the calculation of lattice structures under the action of the wind loads. She has published 9 papers and one book chapter in the last five years. She was one of the authors of the work which obtained the National Academy of Sciences Award to the result: "Contribution to the design of special structures subject to wind action", Havana, Cuba, 2016.

She is member of the Chapter Cuba, Working Group No4 "Tower and Masts", International Association of Shell and Spatial Structures (IASS); Cuban Wind Engineering Network, International Wind Engineering Association, (IAWE). She is an "Associate Young" member of Cuban Academy of Sciences. She received the designation of "Western Fellow" from July 7 to August 18,2019 at Western University, Canada.

Since September 2016, she is the Chair of the Department of Structures at Faculty of Civil Engineering.

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Seminar 1

November, 28th 2019, Classroom A7, at 15:00

Title: Extreme wind events in Cuba- Structural damage and post-disaster efforts

Abstract:
Due to its geographic position, Cuba is frequently subjected to the occurrence of strong winds, mainly associated with hurricanes. These meteorological events cause serious human and material losses. At the beginning of the 60s of the last century, a disaster reduction strategy was developed in Cuba and the creation of a Civil Defense System has allowed the reduction of disasters in the country, especially in the preservation of human lives. The seminar will present a brief summary about the evolution of construction in Cuba, the main characteristics of the civil defense system in Cuba, as well as the main disasters in construction due to hurricanes. As a case study, the methodology to address the study of failures in telecommunication towers will be shown. Finally, a description of the disasters caused by the tornado that occurred in Havana in January 2019 and the actions developed for the recovery of the city will be developed.

Seminar 2

December, 6th 2019, Classroom A12, at 15:00

Title: Studies of telecommunication towers in Cuba

Latticed towers and masts are common structures used on communication area. They are widely spread in the last years with the increase of communications systems. Usually they are slender structures without redundant members, reason why they have not additional strength capacity and they are highly vulnerable to wind forces compared to other structures. Understanding of its behavior became an important condition to reduce partial or total collapses. Some lattice towers collapses have been occurred since the last ten years in Cuba, with the incidence of hurricane winds. There are several probable causes associated with these collapses. Among the identified possible cause of failure, this seminar will present the influence of the presence of antennas through experimental analysis in wind tunnel, the influence of asymmetric anchors on a guyed mast located over hills, as well as the influence of the variation of different initial tension of cables on guyed masts through FEM models analysis. Finally, it will be present a comparison of the response on a guyed mast applying a dynamic analysis using two methods: the equivalent static method “Patch Load” and the full dynamic method “Time History” using Direct Integration.