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**QuickTakes!**

## **William Paterson Environmental Science Professor Awarded Fulbright Scholar Grant to Conduct Research on Tree Rings in Colombia**

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Nicole Davi, a professor of environmental science at William Paterson University in Wayne, New Jersey has been awarded a 2019-20 Fulbright U.S. Scholar award to conduct research on tree rings from high-altitude sites in Colombia. The research will contribute to an understanding of climate variability and dynamics in the region.

Dr. Davi will spend six months from January through June 2020 working collaboratively with Colombian scientists at EAFIT University's Department of Earth Sciences and the Universidad EIA to identify research sites where annual tree rings are prevalent in local tree species. Then she and her colleagues will develop tree-ring chronologies using novel low-cost methods that rely on high-resolution scans of tree-core samples.

"Because of conflict and political interest, tree-ring chronologies are particularly scarce in Colombia," says Dr. Davi. "In addition to contributing an extended understanding of climate variation in this region, tree-ring chronologies from Colombian *Polylepis* trees could also provide insights into how forests are responding to climate change. This work can inform the evolution of the country's forest management policies."

In addition, Dr. Davi said, such records could also provide a long-term context to understand hydrological cycles, and be used to study large-scale atmospheric/oceanic effects of El Nino Southern Oscillation (ENSO) and the Pacific Decadal Oscillations (PDO) – all of which significantly impact rainfall, and the South American summer monsoon.

"These dendroclimatological records from Colombia would be on the cutting edge, and of great interest and value to the larger geoscience community," she adds.

During her time in Colombia, Dr. Davi will work with undergraduate and graduate students through field and laboratory work. She will also give public lectures and potentially run a faculty workshop on tree-ring science. Dr. Davi, who joined the William Paterson faculty in

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2013, is also an adjunct senior research scientist at the Tree-Ring Laboratory at Columbia University's Lamont-Doherty Earth Observatory.

Her research focuses on developing and interpreting high-resolution paleoclimatic records in order to further the understanding of climate change over the past 2000 years. To do her research, she had led and participated in field expeditions in Alaska, Yukon Canada, Peru, Mongolia, Bulgaria, and Ukraine. She has authored or co-authored dozens of peer-reviewed articles on paleoclimate and has received awards from National Science Foundation and other funding agencies for her research.

She has also worked extensively on projects focused on improving science literacy for undergraduate and K-12 students. She recently led a team to develop Tree-Ring Expeditions (TRES), a free online curriculum of five multimedia labs geared to professors teaching introductory science courses that immerse students in the field of tree-ring science.

The Fulbright Program is sponsored by the United States Department of State, Bureau of Educational and Cultural Affairs. Each year, the program provides approximately 800 grants in more than 130 countries to support teaching and research in a wide variety of academic and professional fields.