CIVIL & ENVIRONMENTAL ENGINEERING GRAD STUDENT SEMINAR ANNOUNCEMENT

Scientific Python for Engineers: Automating Data Analysis and Visualization

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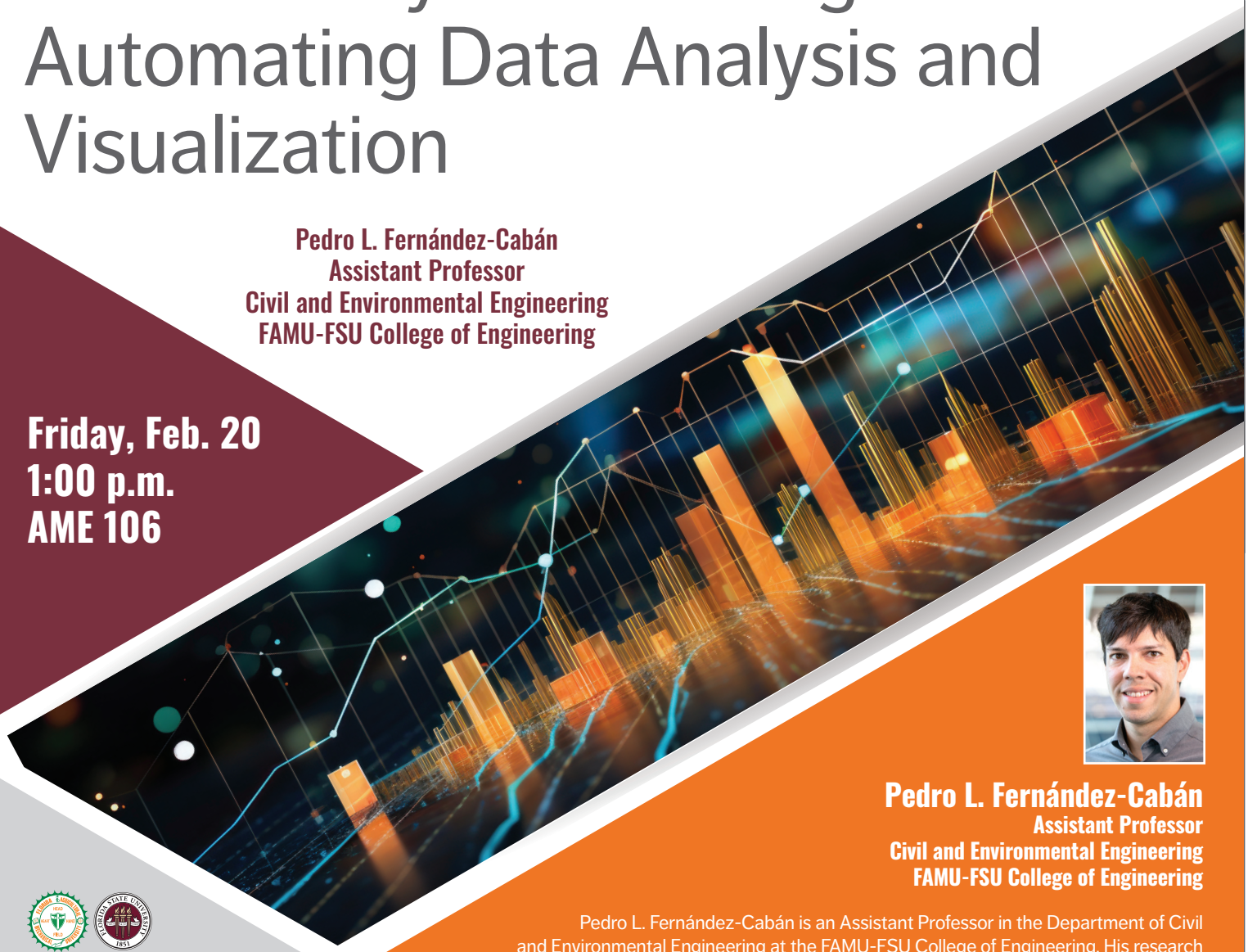
Civil and Environmental Engineering
FAMU-FSU College of Engineering

Friday, Feb. 20
1:00 p.m.
AME 106



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Pedro L. Fernández-Cabán is an Assistant Professor in the Department of Civil and Environmental Engineering at the FAMU-FSU College of Engineering. His research integrates experimental techniques, numerical modeling, design optimization, and cyber-physical methods to enhance the performance of civil infrastructure under wind hazards. He has conducted extensive research in boundary layer wind tunnels and has also been involved in field experiments to characterize near-surface wind fields during landfalling hurricanes. Dr. Fernández-Cabán is a 2020 Fellow of the National Science Foundation (NSF) Enabling the Next Generation of Hazards and Disasters Researchers Fellowship Program led by the Natural Hazards Center (NHC), and a recipient of the NSF CAREER award. He received his Ph.D. in Civil Engineering (Structures) from the University of Florida in 2017, and B.S. in Civil Engineering from the University of Puerto Rico at Mayagüez in 2013.

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This event is sponsored by
FAMU-FSU College of Engineering
Department of Civil & Environmental Engineering

Python is currently the dominant programming language in scientific research, particularly in engineering, AI, and Machine Learning. It has an unrivaled ecosystem of open-source libraries that enable researchers to efficiently process, analyze, and visualize large volumes of data. However, crafting impactful visuals of quantitative information to disseminate scientific findings can be challenging. This workshop will illustrate how to leverage Python libraries to streamline the analysis of large, complex datasets and produce high-quality visuals. The workshop will first cover different Python data types commonly used in engineering and how datasets can be read, restructured, and cleaned. The focus will then shift toward figure formatting, demonstrating how to fully control the appearance of Python plots and efficiently produce publication-ready figures. Illustrations and examples presented during the workshop will be developed in JupyterLab. The workshop is intended to be interactive, and participants are strongly encouraged to bring their laptops.

This is a co-sponsored event between the CEE Graduate Seminar Series and the Data-Enabled Computational Engineering and Applied Quantum Computing (DC-QC) workshop series.