School of Earth and Environmental Sciences
Spring 2024 Colloquium Series

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Science Building C-207

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Pedro Val, PhD

Assistant Professor, School of Earth and Environmental Sciences,
Queens College, CUNY

The Amazon rainforest: from rocks to life

The Amazon ranks #1 on some of the Earth's most important lists: it is the world's largest hydrologic basin and the most biodiverse biome. It contains 10% of the world's vertebrate and plant species while occupying 0.5% of the Earth's surface area. It houses a rich and unparalleled freshwater fish fauna which, alone, make up 26% of all vertebrate species on Earth. **Why is this rainforest so unique?** In this talk, I will describe how the richest biome on Earth - from rocks to soil to life - resulted from unrepeatable geological events, multiple continent collisions, the growth of the Andes, mega-reorganizations of the river networks, and Pleistocene climatic oscillations. Despite its million-year-long history and resilience, the Amazon faces severe and complex threats in modern times. Deforestation and climate change have pushed the Amazon close to its tipping point, beyond which it may enter an alternate, savannah-like state. Degradation of the Amazon concerns all of us: *It is responsible for 16% of all terrestrial photosynthetic productivity and contains 85 ppm of stocked CO_2. If released, its carbon stock would irreversibly raise the world's average temperature by 0.5°C.* **In this talk, I will introduce Earth System topics that will be covered in a zero-level course based on the Amazon Rainforest in the Fall 2024 semester.** If you're interested in basic cross-disciplinary studies in Environmental Sciences and Geosciences, come to this talk!