

Faculty Name:

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Lab:

Carleton Laboratory

Project Title:

MP³ - Morningside Park Pond Project

Description:

Climate change threatens our urban landscapes, bringing a surge in mean temperatures and catastrophic weather events. In these challenging times, public infrastructure, especially in underprivileged areas, provides vital respite and recreational spaces. The historic Morningside Park, serving the Columbia University community and neighboring residents in Morningside Heights and West Harlem, is at the heart of this mission. The park's iconic pond and waterfall have deteriorated due to harmful algal bloom (HAB) outbreaks, which pose a threat to both human and environmental health. Additionally, the deterioration of the pond is exacerbated by pump failures due to frequent flooding of the system. The Frederick Law Olmsted-designed park constitutes a natural environment that requires careful stewardship; we propose to form an interdisciplinary team of Columbia faculty, staff, and students to tackle the challenge of restoring the pond and its signature waterfall in concert with local communities. This project will improve the park's flora and fauna ecosystem (LDEO, EEE), repair the broken pumps (CEEM, MECE), and generate a preliminary upper park redesign to ensure a sustainable source of spring water for the pond. New York City Department of Parks and Recreation (NYC Parks) is excited to join this effort, which also gained support by University President Shafik. Further, using the Morningside Park pond as a testbed, we propose to devise a holistic and sustainable management plan for the control and reduction of HABs that currently seasonally befall over forty water bodies in New York's greenspaces.

Location of Research:

On-Site, Laboratory, and Field Work

of hrs/week:

35

Department/Program:

Civil Engineering & Engineering Mechanics

Eligibility:

BS, Second Year, BS, Third Year, BS, Fourth Year, MS

To apply, please contact:

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