



Aerosol and Air Quality Research Laboratory (AAQRL) is housed in the Department of Chemical, Environmental, and Material Engineering at the University of Miami. Our focus is on research and education related to particulates in gaseous suspension, known as aerosols.

RESEARCH CLUSTERS



Synthesis

Measurement

Applications

- Particle Formation Fundamentals
- Aerosol Instrumentation and Measurement
- Air Quality & Bioaerosols in Healthcare
- Nanoparticle Synthesis and Applications
- Combustion
- Aerosol Assisted 3D Printing

FACILITIES

- Aerosol and Particle Instrumentation
- Pressurized Combustion Systems
- Flame-aerosol Nanoparticle Synthesis Systems
- Solar Energy and Energy Storage
- Furnace-aerosol Nanocomposite Synthesis Systems
- Particle Chemical Composition (GC-MS)

CURRENT STUDENTS AND SCHOLARS

Ph. D. Students:
 Haoming Luo
 Yiming Xi
 Candido Hernandez
 Youssef El Khanfari
 Kiana Neshati

Undergraduates:
 Caitlin Cherenfant
 Sofia Costa
 Diego Oranday
 Kyla Kavanaugh

FUNDING AND COLLABORATORS





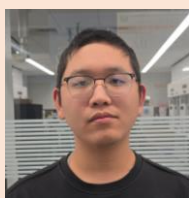
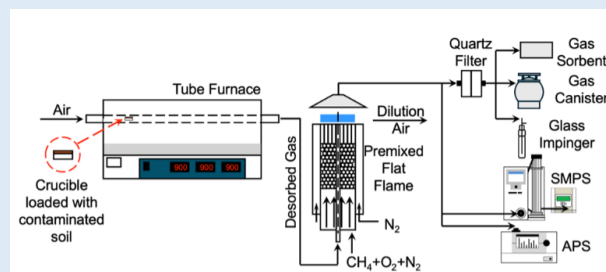
Yiming Xi
Ph.D. Candidate

Yiming Xi is utilizing sargassum, a kind of waste floating algae, to form fluorescent carbon dots via one-step, aerosol-based conversion methods.



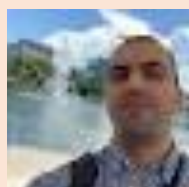
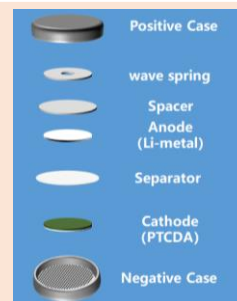
Candido Hernandez
Ph.D. Student

Candido Hernandez is studying using high-temperature to remove and decompose the Polyfluoroalkyl Substances (PFAS) in the soil.



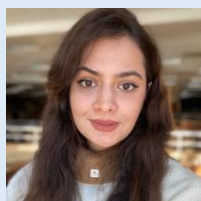
Haoming Luo
Ph.D. Student

Haoming Luo is exploring new materials for higher performance battery materials with one-step aerosol-based synthesis.



Youssef El Khanfari
Ph.D Student

Youssef El Khanfari is currently exploring deploying cost-effective sensors to monitor the exposure (PM, VOCs) during fire fighting operation



Kiana Neshati
Ph.D. Student

Kiandokht Neshati is interested in energy and environment nanotechnology; and health impacts of aerosols

