



NYU

TANDON SCHOOL  
OF ENGINEERING

## Fully-Funded PhD Positions in Climate, Energy, and Risk Analytics Lab (CERA)

**Start Date:** Spring 2025 or Fall 2025

**Affiliated Departments:** Mechanical and Aerospace Engineering, Center for Urban Science and Progress at New York University

### About Us:

At the Climate, Energy, and Risk Analytics Lab ([CERA](#)), we drive innovation in understanding and managing climate risks and energy transitions using data-driven approaches with collaborations with stakeholders. Our cutting-edge research focuses on identifying, quantifying, and mitigating various climate risks including floods, heatwaves, and transition risks to build resilient communities, protect assets, and support institutions. Our research projects include:

- **Modeling Urban Flood Risks:** Developing statistical and machine learning models and physics models to forecast and nowcast floods and their socioeconomic impacts.
- **Heatwave Impact Assessment:** Analyzing the effects of heatwaves on public health and energy systems. The goal is to create adaptive strategies and decision-support tools to manage heat wave impacts on vulnerable populations.
- **Designing Optimal Protective Strategies:** Developing decision-making frameworks and optimization algorithms to ensure cost-effective and equitable measures against various natural hazards using hazard and demographic data.
- **Transition Risk in Energy Systems:** Investigating the risks associated with transitioning to renewable energy sources. This project involves quantitative financial risk assessment and scenario analysis to support sustainable energy policy and investment decisions.

### About Dr. Yuki Miura:

Dr. Miura is an assistant professor in the Department of Mechanical and Aerospace Engineering and the Center for Urban Science and Progress at NYU where she leads the CERA Lab. Previously, she worked at Morgan Stanley in climate risk management and quantitative strategy. She holds a PhD, MPhil, and MS in Civil Engineering and Engineering Mechanics from Columbia University, and a BE in Systems Design Engineering from Keio University, Japan.

### PhD Candidate Profile:

We are seeking highly motivated candidates with strong research backgrounds in applied statistics, engineering, risk analysis, data science, fluid dynamics, optimization, generative AI, climate risks, and relevant fields. Essential qualifications include:

- Proficiency in programming languages (e.g., Python)
- Advanced quantitative analysis skills including physics modeling, machine learning
- Excellent communication skills

Successful candidates will receive full financial support, including tuition coverage, competitive stipends, and comprehensive medical insurance.

**Application Instructions:**

Interested candidates should upload the following materials to [the form](#):

1. **CV** – Include academic/professional experiences, a detailed list of publications, and relevant skills.
2. **1-Page Cover Letter** – Describe your research experience, interests, and how they align with the goals of CERA. Additionally, outline your future academic and professional aspirations.
3. **Transcripts** – Provide official academic transcripts.
4. **Publications** – Include copies of any published work, if applicable.
5. **References** – Provide contact details for 2 academic or professional references.