

**Opportunity Title:** Aerothermodynamics of Turbomachinery  
**Opportunity Reference Code:** 0001-NPP-NOV24-GRC-Aero

**Organization** National Aeronautics and Space Administration (NASA)

**Reference Code** 0001-NPP-NOV24-GRC-Aero

**How to Apply** All applications must be submitted in [Zintellect](#)

Please visit the NASA Postdoctoral Program website for application instructions and requirements: [How to Apply | NASA Postdoctoral Program \(orau.org\)](#)

A complete application to the NASA Postdoctoral Program includes:

1. Research proposal
2. Three letters of recommendation
3. Official doctoral transcript documents

**Application Deadline** 11/1/2024 6:00:59 PM Eastern Time Zone

**Description** About the [NASA Postdoctoral Program](#)

The [NASA Postdoctoral Program \(NPP\)](#) offers unique research opportunities to highly-talented U.S. and non-U.S. scientists to engage in ongoing NASA research projects at a NASA Center, NASA Headquarters, or at a NASA-affiliated research institute. These one- to three-year fellowships are competitive and are designed to advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems, and astrobiology.

**Description:**

**Opportunity Open to U.S. Citizens and Permanent Residents**

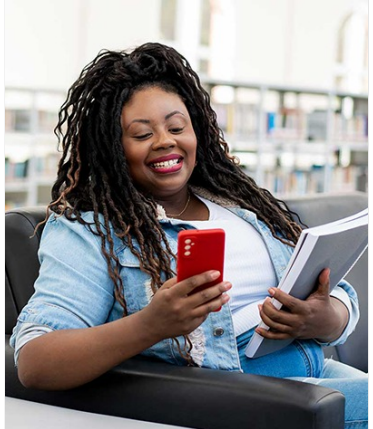
Turbomachinery aerothermodynamics research focuses on developing a basic understanding of the aerothermodynamic environment associated with turbomachinery. Configurations of interest include axial-flow fans, axial- and centrifugal-flow compressors, axial- and radial-flow turbines, and high-speed single and counter-rotating propellers. Models for both the time-averaged and unsteady flows in these devices are developed. This activity includes modeling of inlet distortion, blade-row interactions, and turbine heat transfer. The mathematical equations associated with these models are solved by analytical methods or by numerical procedures.

Current research activities include the development of models and associated computer codes for predicting unsteady flow phenomena associated with blade-row interaction, turbulence and other unsteady flow phenomena such as transition and separated flows that may exist in fans, compressors, film-cooled high pressure turbines and highly-loaded low pressure turbines.

**Location:**

Glenn Research Center  
Cleveland, Ohio

**Field of Science:** Aeronautics



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**Advisors:**  
Mark L. Celestina  
mark.celestina@nasa.gov  
216-433-5938

**Questions about this opportunity?** Please email [npp@orau.org](mailto:npp@orau.org)

- Eligibility**
- Requirements**
- **Citizenship:** U.S. Citizen Only
  - **Degree:** Doctoral Degree.