Opportunity Title: Computational Structural Mechanics
Opportunity Reference Code: 0003-NPP-NOV23-GRC-AeroEng

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0003-NPP-NOV23-GRC-AeroEng

Application Deadline 11/1/2023 6:00:59 PM Eastern Time Zone

Description **Opportunity Restricted to US Citizens Only**

Research is conducted for the development of theories and computer codes for the analysis and design optimization of propulsion system structural components. These components can be made from advanced materials, advanced composites, high-temperature composites, and ceramics. The structural components are subjected to complex loading conditions and exhibit nonlinear material behavior that can degrade with exposure to service environments and time.

The research in computational structural mechanics encompasses mainly the development of (1) problem-size condensation algorithms; (2) run-stream data-condensation methods; (3) nontraditional structural analysis; (4) parametric optimization methods for preliminary design; (5) computationally efficient computer codes that use expert and/or artificial intelligence concepts; and (6) the exploitation of the emerging major advancements in computer hardware and software science such as parallel architectures, neural networks, and complexity theory.

Location:
Glenn Research Center
Cleveland, Ohio

Field of Science: Aeronautics, Aeronautical or Other Engineering

Advisors:
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Eligibility Requirements

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