Postdoctoral Associate / Direct Hire Fellowship Opportunity - Naval Research Laboratory (NRL - Washington DC)

STEM Discipline: Mechanical Engineering, Applied Mechanics, or Materials Science and Engineering

Research Description: This basic and applied research opportunity invites the applicant to join an active team of researchers with a mission to perform basic and applied research to develop and characterize new material systems with multifunctional capabilities (structure and functional) of interest to the Navy, DoD, and the broader materials community. Mechanics, materials science, engineering science, physics, chemistry and biology are employed to formulate and advance material systems designs to achieve multiple functions through judicious combinations of structural properties and one or more functional capabilities to extend and enhance the system-level performance. Successful candidates will participate in ongoing research and develop new research directions.

Desired Skill-sets:
Experience in the following:

i. Mechanical-materials design & testing at multiple scales (nano-macro) and/or multiple physics (structural + thermal, electrochemical, etc.). Techniques include stress-strain analysis; mechanical testing- tensile, bending, fatigue/fracture, Dynamic Mechanical Analysis; materials characterization of meso-/micro-structure, SEM, etc.);
ii. Modeling & characterization of the mechanical behavior of materials and microstructure/defect-property interactions in: metals (particularly steel), ceramics (UHTCs), polymers, & composites.

Additional skills that would be a plus:

i. Signal processing: dynamic wave signal analysis and transforms (e.g., Fast Fourier transforms, wavelets, etc.), elastic wave generation and sensing in materials;
ii. Processing of UHTCs and/or MAX Phases and characterization of their thermal stability, mechanical behavior, and oxidation resistance;
iii. Computer-based Analysis (e.g., Python, Matlab, LabView, etc.);
iv. Machine learning.

Interested Applicants: please send an email that includes CV, statement of interest, and relevant research experience. Review of applications will begin on February 15, 2023 and will continue until the position is filled. Position (postdoc, direct hire fellowship) will be based on candidate's experience. Candidate must be a U.S. Citizen.

Contact Information:

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