Funding Opportunity Announcement: Michael R Anastasio LANL-UC Early Career Faculty Scholar program.

Michael R. Anastasio spent his technical career within the UC system and was the former Director of both Los Alamos National Laboratory (LANL, left), Lawrence Livermore National Laboratory (LLNL), the only person to ever hold both positions. He has been active in his support for LANL and its missions since that time.

Details:

Los Alamos National Laboratory (LANL) and the UC National Laboratories (UCNL) at the University of California (UC), Office of the President (UCOP) are jointly inviting applications for the Michael R Anastasio LANL-UC Early Career Faculty Scholar program. The winning proposal will fund one tenure-track faculty member in the UC system with up to $750k for a 3-year award cycle, planned to commence in October 2025. The technical topic for this call will be in a **computational science** subject area (details below) centering on overlapping interests between the UC faculty and the Laboratory's national security programs and mission.

The initiative is intended to develop the next-generation UC academic leadership with strong and enduring Los Alamos National Laboratory connections. This 3-year award allows the recipient to develop their innovative ideas, advance their research, gain tenure, and become recognized for their professional leadership. The award fund is structured to allow faculty to build a research group including undergraduates, graduate students, and postdoctoral fellows. The award also provides Laboratory researchers opportunities to collaborate and be more connected to the UC community to enhance its workforce and research objectives. The required annual onsite visit to Los Alamos National Laboratory is intended to strengthen the technical and workforce pipeline connections between UC and the Lab.

Duration and Funding

Award to untenured UC tenure-track faculty member up to $750K over a 3-year period starting October 2025.

Eligibility

To be eligible for the initiative, a researcher must be an untenured, tenure-track faculty member at one of the ten UC campuses, and must be a US Citizen.

Application Process
UC candidates must submit a pre-preproposal describing their research interest and connection to LANL research focus areas described below. Pre-proposals should use the attached template (MAScholar_preproposal.pdf). Pre-proposals will be reviewed by a screening committee to select a smaller number who will be asked to submit a full proposal.

UC faculty who are selected for a full proposal will receive more detailed technical information on LANL subject areas and have the opportunity to interact with LANL researchers and potential co-PIs to discuss possible proposal details. Full proposals will be reviewed by the screening committee to select a single proposal for funding.

Research Focus Areas
This funding call seeks to support early career, tenure track professors in advancing the field of computational science. We aim to empower researchers to develop cutting-edge solutions that address current and future challenges in this critical area. Proposals should align with one or more of the following research focus areas:

1) **New methods for multi-scale and multi-physics modeling.** Applications may span a wide range of national security problems (e.g. for scalebridging – materials, chemistry, biophysics, turbulence, radiation hydrodynamics, etc.)
   - Developing new algorithms for new hardware (e.g. GPUs, neuromorphic computing, quantum computing, etc.)
   - Developing new algorithms tuned to specific applications
   - Workflow solutions combining different simulations (e.g. boundary effects, etc.)
   - General frameworks for scale-bridging or multi-physics modeling (e.g. with applications for materials, chemistry, biophysics, turbulence, radiation hydrodynamics, etc.)
   - Methods to better leverage experimental measurements to calibrate new algorithms

2) **Basic Machine Learning and Artificial Intelligence**
   - Core mathematics
   - Algorithm workflow
   - Access to massive computational resources
   - New approaches for advancing simulation capabilities

3) **Design Optimization and Process Modeling and Simulation**
   - Development of advanced optimization algorithms for architected materials and advanced manufacturing processes.
   - Integration of artificial intelligence and machine learning in materials design.
   - Multi-scale modeling of architected materials behavior for enhanced design under extreme conditions.
   - Digital twins.

Requirements
Under this FOA, all work will be conducted at the unclassified level. A pre-proposal must be submitted using the guidance provided (see attached). If selected for a full proposal, the full proposal submission must include a joint research proposal with a LANL technical staff member(s). Specific details will provided to those invited for a full proposal.

Members of the UC research group must spend an agreed amount of time on-site at LANL each year during the funded period. Dates, duration, and visiting members to be agreed upon by UC faculty recipient and LANL collaborators.

Deadlines
Pre-proposal: must be submitted before midnight **March 3, 2025**, at which time the FOA will be closed. Details on full proposals and due dates will be provided in the notification for those invited to the full proposal stage.

Contacts
David L. Clark, Program Director for LANL's National Security Education Center is the technical POC for this funding opportunity. Questions about proposal submission may be submitted by email to **MAScholar@lanl.gov.**

Attachments: Pre-proposal instructions (LANL MAScholar_pre-proposal.pdf)
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