Home
Profile Information
Education History
Employment History
Honors & Awards
Profile Uploads

Program Eligibility

Applications
February Review 2021
Agency: NIST
Data Review
Validate & Submit

Agency Opportunity: February Review 2021

Your application was submitted on 2/1/2021 at 12:48 PM ET; it cannot be modified at this time.

AGENCY OPPORTUNITY DETAILS

Agency: National Institute of Standards and Technology (Research Opportunity #: 506472.B8349)
Title: Atomistic Modeling of Strains and Electronic Distortions in Materials for Quantum Computers
Location: Boulder, CO

Opportunity | Research Proposal | References | **Review Scores & Comments**

The following is a summary of your scores and reviewer comments for this application. Three reviewers provided scores in each of the categories specified and the average score is reported here. Category scores were multiplied by a weighted factor and then summed to calculate your composite score.

Your scores are followed by comments provided by the reviewers. Reviewer comments are made available to applicants only and are not shared with prospective Advisers or the sponsoring agency.

Status: NRC Review Complete (Click here for more information)

Reviewers' scores:

Category	Score	Weight	Category Score
Academic and Research Record			
Educational background (degrees, transcripts, honors and awards)	4.42	x1	4.42
Previous research experience (including thesis research)	4.42	x2	8.84
Publications and presentations	4.33	x3	12.99
Reference Reports	4.33	x3	12.99
Scientific Merit of the Proposed Research			
Clarity of objectives and methodology	4.58	x2	9.16
Technical/innovative quality of the work plan	4.42	x3	13.26
Feasibility of success in the proposed timeframe	4.50	x1	4.50
Qualifications of the applicant relative to the proposed research	4.33	x2	8.66
Lab/Center Review			
Importance of the proposed research to the mission of the laboratory and capacity of the laboratory to support the research	4.58	x1	4.58
Overall assessment of the project	4.50	x2	9.00
Composite Score			**88.40**

Reviewers' comments on academic preparation, research experience, and references:

Reviewer #1

This is a strong candidate whose letters and transcript clearly show the needed theoretical skills to perform the proposed research

Reviewer #2

The applicant apparently has expertise in a wide array of analytical and computational tools, including field-theory methods for studying many-body systems and advanced statistical mechanics techniques such as renormalization-group methods, study of phase transitions and critical points, Fokker-Planck equation and other dynamical approaches. The applicant has only three research publications, but they are well cited. Overall, the applicant has the theoretical background for successfully carrying out the proposed project.

Reviewer #3

The candidate has strong academic background and is a recipient of a number of awards. He has two publications with him as the first author and two presentations. What is extra-ordinary of his research is his interest and the creation of the statistical model on behavior and having it published. He has very good recommendations from his references.

Reviewers' comments on the quality of the Research Proposal and value to the sponsoring laboratory:

Reviewer #1

The research proposal is very important to the goals of the lab. It involves in essence the use of standard methods to deal with an important problem

Reviewer #2

The proposal is well written and scientifically sound. It comprises an innovative application of DFT and Tight Binding calculations for studying NVDs that have promise for quantum computers, optical devices, nano-sensing, and powerful new metrology, as NVD can locally detect and measure physical quantities of interest. The work plan is sound and well-thought out, and a realistic time line for completion of important project milestones is included.

Reviewer #3

The candidate has described the proposal ideas with clarity and the method to calculate lattice distortions and strain arising from Nitrogen-Vacancy centers in diamond and their relations to electronic structure, using a hybrid approach He will be incorporating various components of methods available to make a hybrid method for the study. The lab advisor is supportive of the project and expects very good progress on the project.