Proposal: 2206369

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Agency

Agency Name:	National Science Foundation

Application

Agency Tracking Number:	**2206369**
Project Title:	Collaborative Research: Mathematical modeling and simulation of self-assembling amphiphilic particles in solvent
Requested Amount:	$237,437
Received Date:	11/15/2021
PI/PD:	Bryan Quaife
Authorized Representative:	Dale Meeks
Submitting Institution:	Florida State University
SAM Legal Business Name:	FLORIDA STATE UNIVERSITY

Program

Program Title:	APPLIED MATHEMATICS
Program Code:	1266
Funding Opportunity Number:	PD 16-1266
Division/Area of Science:	Division Of Mathematical Sciences
Program Contact Name:	Tiziana Giorgi
Program Contact Phone:	(703) 292-8090
Program Contact Email:	tgiorgi@nsf.gov

Application Status History

Status	Status Date

Status	Status Date
Declined	05/09/2022

Cognizant Program Officer Comments

Dear Dr. Quaife,

The proposal DMS - 2206369 (Collaborative Research: Mathematical modeling and simulation of self-assembling amphiphilic particles in solvent) was not recommended for funding. This recommendation follows the process described in the Process Statement available to you on this page.

This proposal was submitted to the Applied Mathematics Program of the Division of Mathematical Sciences and evaluated by one of the FY22 panels managed by the Applied Mathematics program. The panel comprised researchers with expertise in areas relevant to the main thrusts of the proposals under consideration and was asked to evaluate proposals with respect to the two main NSF review criteria (Intellectual Merit and Broader Impacts), and additional RUI review criteria, when applicable. At least three panelists were assigned as reviewers to each of the projects discussed by the panel. During the panel, for each proposal discussed by the panel, one panelist who was not conflicted with the proposal took detailed notes of the discussion and prepared a written summary of the discussion. Following the discussion, each proposal was placed by the panel in one of three categories: (1) Highly Competitive, (2) Competitive, or (3) Not Competitive.

The reviews and the panel summary for this proposal are also available to you on this page. Please understand that reviewers address their comments chiefly to NSF, not to Principal Investigators. Reviews containing irrelevant, non-substantive, or erroneous statements are not used in evaluating the merits of a proposal.

The panel found that this collaborative proposal covers important modeling and numerical issues for an interesting and challenging physical problem. The proposed approach is appealing, and the PIs have a strong collaborative track record. However, during the panel discussion various concerns were raised regarding a lack of details on computational and modeling aspects of the proposed research, and on the level for innovation in mathematical content. Compared to some other proposal in this very strong competition, the panel found this proposal less persuasive and placed the proposal in the lower third of the Competitive category. The proposal received a review with rating E/V from one of the panelists. This panelist agreed with the panel's placement and ranking of the proposal. Due to budgetary constraints, it is not possible to fund all the competitive proposals. With regret, I concur with the panel's assessment of the proposal and recommend that this proposal be declined

I hope that a careful reading of the comments of the reviewers and panel, and the above excerpts will provide useful feedback when preparing future submissions.

All the best,

Tiziana Giorgi
Program Director
Applied Mathematics Program
Division of Mathematical Sciences

Review Information

Please note: The Sponsored Projects Office (or equivalent) at the submitting organization is NOT given the capability to read the below review information.

Panel Summary

Panel Summary	Release Date
Panel Summary #1	05/08/2022

Proposal Review Summary of All Reviews

Review	Release Date
Proposal Review #3	05/08/2022
Proposal Review #2	05/08/2022
Proposal Review #1	05/08/2022

Process Statement

All proposals submitted to NSF are reviewed according to the two merit review criteria - intellectual merit and broader impacts - as described in the *NSF Proposal & Award Policies & Procedures Guide*. If a proposal is submitted to a specific program solicitation, additional review criteria may also have been used in the merit review of the proposal. Any additional review criteria used in the evaluation of a proposal would be described in the program solicitation to which the proposal was submitted. If the proposal was submitted in response to a funding opportunity that involved both NSF and one or

more external funding organizations, then NSF staff may consult with those external organizations before finalizing a recommendation.

Your proposal received an external review, either by *ad hoc* reviewers only, by panel only, or by a mix of *ad hoc* and panel reviews. Some proposals may be considered by more than one panel. Reviewers have knowledge of the science and engineering subfields involved in the proposal as well as potential applications when relevant. The reviewers' fields of specialty are usually complementary within a reviewer group. Sometimes, reviewers with a broader scientific, technical, or management expertise are required for proposals involving substantial size or complexity, partnerships, broad multidisciplinary content, or significant national or international implications.

When a panel is used, individual reviewers, who may be panelists or *ad hoc* reviewers, are usually asked to submit written reviews to inform the panel discussions. If, after a panel has discussed a proposal, the Program Officer believes that additional expert advice would be helpful, they may request post-panel *ad hoc* reviews. During a panel meeting, written summaries of the panel's discussions of proposals are prepared. These summaries are brief synopses of the salient points emerging from the panel's discussion of each proposal, as they relate to the NSF and solicitation-specific review criteria. Copies of all the reviews and panel summaries used in the decision-making process for your proposal are available to you and your co-Principal Investigator(s), if any, on the Research.gov "Proposal Status" screen.

When a panel is used, the panel usually has an opportunity to categorize proposals with respect to their degree of competitiveness or priority for funding. Panels may decide that the written reviews capture all the salient points and that no further discussion by the panel is warranted; in those cases a panel summary may not be provided.

Panelists and Program Officers with certain conflicts of interest are disqualified from either serving as a reviewer or otherwise participating in the review process. Panelists or Program Officers with conflicts of interest that do not require disqualification are asked to leave the meeting room while the proposal that contains the conflict is discussed and do not otherwise participate in any funding recommendations for that proposal. Any written review received from a reviewer who is identified as having a conflict of interest is not used in the review process.

In reading the reviews, please keep in mind that the reviews are addressed to NSF staff, and not necessarily to you, the Principal Investigator. Occasionally, reviews may contain irrelevant, non- substantive, erroneous or ad hominem statements. The review panel and the Program Officers disregard such statements in arriving at a recommendation for the proposal.

External reviews are advisory; NSF makes the decision to Award or Decline, or in the case of preliminary proposals, to Invite/Not Invite or Encourage/Discourage. While many projects warrant funding, budget limitations necessitate that many of these be declined. In the difficult decision-making process, Program Officers consider the relative strength of each project as well as other factors, such as award balance among sub-disciplines, geographic distribution, types of organizations, and the potential contribution of each award to broadening the participation of individuals from groups traditionally underrepresented in science, technology, engineering and mathematics.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director/Office Head/Office Director or their designee whether the proposal should be declined or recommended for an award (or Invite/Not Invite or Encourage/Discourage in the case of a preliminary proposal). Normally, final programmatic approval is at the division/office level; large or complex awards may receive additional levels of review. Because of the large volume of proposals, this review and consideration process may take six months or longer. Large proposals, particularly complex proposals, or proposals in programs involving external partnerships may require additional review and processing time. Information on funding rates for all NSF divisions can be found at https://dellweb.bfa.nsf.gov.

NSF allows resubmission of substantially revised proposals as described in the *NSF Proposal & Award Policies & Procedures Guide*, but encourages investigators to seek the advice of the Program Officer before resubmissions are prepared. Some program solicitations impose restrictions on the timing of resubmissions. Investigators should be aware that the Foundation will treat the revised proposal as a new proposal that will be subject to the standard review procedures.

Information about reconsideration of declined proposals is found in the *NSF Proposal & Award Policies & Procedures Guide*. If you have questions regarding the review of your proposal, please contact the Program Officer who managed your proposal. Contact information is available on Research.gov.

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