

[Proposals](#)

[Awards & Reporting](#)

[Fellowships](#)

[Manage Financials](#)

[Administration](#)

## Proposal Panel 1 : 2145027

[Back to Proposal](#)

Agency Name: National Science Foundation

Agency Tracking Number: **2145027**

### Panel Summary

Panel Summary

The proposal concerns "dynamical algebraic combinatorics", a phrase coined by the PI and his collaborators to indicate an approach to classical enumerative combinatorial problems by taking advantage of group actions.

#### INTELLECTUAL MERIT

There are a large number of problems proposed. They are grouped into three classes: developing a theory of independent polytopes, braid group actions on quantum groups, and cluster algebras. The description of the problems would have been improved if more detail and motivation had been included. The panel remarked that some of the problems are narrowly focussed. In other cases, such as the proposed work on uniform Catalan numbers, there was not enough evidence given that the proposed strategy would contribute to the solution.

#### BROADER IMPACTS

The broader impacts include considerable mentoring of both undergraduates and PhD students. The PI is active in many other things supporting the general research community, including organization of conferences. The proposed new educational initiatives include the development of a Math Circle, writing an interactive Java script textbook on discrete mathematics, and the creation of an online library in Sage of combinatorially significant graphs. These new projects are embedded in a narrative about the PI's activities, making them difficult to find. These initiatives are large enough that more serious concrete steps to begin these projects would have strengthened this part of the proposal significantly. The broader impacts are good, but not competitive with some other proposals.

RESULTS FROM PRIOR NSF SUPPORT: The PI had a conference grant which has supported graduate students.

#### SUMMARY

This is a good proposal, but was not competitive with some of the other proposals. The panel placed the proposal in the Not Recommended for Funding category.

This summary was read by/to the panel, and the panel concurs that it accurately reflects the panel discussion.

**PANEL RECOMMENDATION:** Not Recommended for Funding



#### About Services

[Account Management](#)  
[Award Cash Management Service \(ACMS\)](#)  
[Notifications & Requests](#)  
[Project Reports](#)  
[Proposal Status](#)  
[Public Access](#)

#### NSF Award Highlights

[Research Spending & Results](#)

#### Contact

[Contact Help Desk](#)



#### News & Discoveries

[News](#)  
[Discoveries](#)  
[Multimedia Gallery](#)

#### Funding & Awards

[Recently Announced Funding Opportunities](#)  
[Upcoming Funding Opportunity Due Dates](#)  
[A-Z Index of Funding Opportunities](#)  
[Find Funding](#)  
[Award Search](#)  
[Proposal & Award Policies & Procedures Guide \(PAPPG\)](#)

#### Publications & About NSF

[Publications](#)  
[About the National Science Foundation](#)  
[Careers](#)  
[Staff Directory](#)

[Feedback](#)



[See all NSF social media](#)