

Proposal Panel 1 : 1711984

Agency Name:

National Science Foundation

Agency Tracking Number:

1711984

Panel Summary

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Synopsis:

This proposal seeks to improve and standardize RNA-seq analysis pipelines by 1.) extending graph-based methods to improve annotation and gene expression quantification, and 2.) improving indexing and annotation of publically available RNA-Seq data.

Intellectual Merit (IM):

IM strengths:

The panel was unanimously enthusiastic about the intellectual merit of the proposed research objectives, the proposed methods for achieving those objectives, and the utility of the tools that will be developed.

IM weaknesses:

The primary weakness was that benchmarking metrics were not clearly defined. It was not entirely clear how 'improvements' would be measured. While it is relatively easy to measure improvements in computational speed, improvements in accuracy are much more nebulous. A more detailed discussion of this issue would have improved the proposal.

Broader Impacts (BI):

BI strengths:

The developed tools and pipelines themselves are a strong broader impact of the work. Beyond these software developments, the PI also proposes several activities aimed at broadening participation through coding workshops. These workshops were viewed as a strength of a proposal. These training efforts seem as though they will be effective and can be realistically implemented in the timeframe of the fellowship.

BI weaknesses:

The panel did not mention any specific weaknesses with the broader impacts of the proposal.

Solicitation-specific requirements:

The panel agreed that the choice of sponsoring scientist and host institution were excellent for the proposed research. While the proposed research activities build on the expertise that the PI gained during their PhD training, it represents a significant shift in focus toward bioinformatics and computational biology. The mentoring plan is well detailed and outlines several avenues for career development beyond the specific research training. The plan for broadening participation was strong.

Data management plan:

The data management plan was strong, and no specific weaknesses were noted.

Rationale for Recommendation:

The panel felt that this was an excellent proposal. The intellectual merits, broader impacts and the training potential for the PI were all very as being very strong.

This summary was read by the assigned panelists and they concurred that it accurately reflects the panel discussion.

PANEL RECOMMENDATION: Outstanding