

## Intellectual Merit Criterion

### Overall Assessment of Intellectual Merit

Good

### Explanation to Applicant

The applicant has been awarded several scholarships. He has some experience within his research group and has been working there as an undergraduate. He derived some new numerical results which were previously incorrect in the literature and has been presenting his work although has no publications yet.

## Broader Impacts Criterion

### Overall Assessment of Broader Impacts

Good

### Explanation to Applicant

The applicant is the founder of a Physic Field Day for high school students to visit GeorgiaTech as well as Excellence Adventure a series of lectures for freshmen students. He also participated with a project to the Atlanta Science Festival. As an Outreach and Education program the applicant intends to continue on the directions he has already established at GeorgiaTech.

## Summary Comments

The applicant is interested in studying cardiac electrophysiology. While a model is already present in the literature, it does not fully account for observations and the applicant's research program proposes to study more involved models to describe cardiac cells. The research goals are interesting but perhaps establishing a greater breadth of other types of studies performed in the community could have been useful. Changing environment between the undergraduate and graduate part of his education would also have provided the applicant with a valuable enriched experience and may have brought him new perspectives. The application could have benefited from being written in a less colloquial style.

## Intellectual Merit Criterion

### Overall Assessment of Intellectual Merit

Very Good

### Explanation to Applicant

Even though the transcript does not indicate excellent academic performance, the research proposal is outstanding. He has a maturity for doing research independently. He has got a very high opinion from reference writers.

## Broader Impacts Criterion

### Overall Assessment of Broader Impacts

Excellent

### Explanation to Applicant

The proposed research may have far reaching applications in medicine. The applicant has a drive for teaching.

## Summary Comments

Outstanding proposal and broader impacts

## Intellectual Merit Criterion

### Overall Assessment of Intellectual Merit

Very Good

### Explanation to Applicant

Academic record is not strong compared to other applicants. However, two of the letters describe research accomplishments that indicate a creativity far beyond that of most other students at his stage.

## Broader Impacts Criterion

### Overall Assessment of Broader Impacts

Excellent

### Explanation to Applicant

A significant number of outreach/broader impacts activities which are quite different from the usual type. His research experiences are broad and seem more creative than those of nearly all the other applicants I have seen.

### Summary Comments

This is a hard application to judge. The letters and accomplishments out of the classroom are extremely strong but his classroom work is much less impressive. I suspect this is an applicant with a high ceiling and a low floor, which makes this a difficult one to rank. The high ceiling is intriguing and has my attention.

## Intellectual Merit Criterion

### Overall Assessment of Intellectual Merit

Excellent

### Explanation to Applicant

This is a difficult case to assess. On the one hand, the letters are glowing, and describe a researcher full of inspiration and initiative. On the other hand, the grades tell a different story - a struggling student with C in some crucial math and physics classes. I would take the leap of faith and side with the letters, and acknowledge that the student has a lot of promise.

## Broader Impacts Criterion

### Overall Assessment of Broader Impacts

Excellent

### Explanation to Applicant

The research proposed has obvious medical applications, and therefore could have a very strong impact. In addition, the student was constantly involved with outreach in science fairs throughout his college, and was active in building demos (a fusor!) for the general public.

### Summary Comments

A very strong applicant, with a weakness in formal classes. I would recommend awarding an NSF fellowship despite that. Nevertheless, this is the reason for a ranking at the bottom of the excellent range.