Score for Ladd, Mallory

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Excellent

Explanation to Applicant

The applicant has an impressively broad range of productive research experience resulting in publications and presentations. There is overwhelming evidence of the applicant's potential to achieve stellar performance in graduate school in the support letters. The research proposal, while naive in places, is really well written and thorough.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Very Good

Explanation to Applicant

The applicant has been active in promoting education by active participation in professional societies for women, mentoring students, and organizing lab tours for girl scouts. The applicant has been very active in giving talks on her research. There is strong evidence in the support letters and in the essays that the applicant will continue to be actively engaged in activities promoting education, e.g., by participating in the PolarTREC program and working with high school teachers.

Score for Ladd, Mallory

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Very Good

Explanation to Applicant

The applicant has 1 publication, which shows the ability to produce high-quality scientific data. I am a bit confused at the proposed research. It is not entirely clear that the applicant has a good feel for the proposed project as the proposal jumps between topics and with very little detail. Some of the experiments don't seem terribly realistic. Overall, the project seems overly ambitious and, most importantly, the proposal could benefit greatly from a well-defined hypothesis.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Very Good

Explanation to Applicant

The applicant has several very good ideas for broader impacts. However, like the proposal, it is very ambitious and I am left not understanding how all of this work can get done in such a short amount of time. In the future, it would be helpful for the applicant to provide specifics as to how each task would be completed.

Score for Ladd, Mallory

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Very Good

Explanation to Applicant

The applicant has an excellent background for the proposed research based on a wide variety of previous research experiences. Leadership experiences were outstanding. The applicant has clearly demonstrated an ability to interpret and communicate research findings based on co-authoring a published manuscript and presenting at several national, scientific conferences. Collectively, the applicant's reference letters are very compelling in terms of demonstrating the potential of the applicant, noting that the applicant is "destined for success".

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

The applicant has previous experience in integrating education into past research experiences, even as an undergraduate student. The applicant has been involved with scientific organizations, Girl Scouts and Boy Scouts, and high school students through STEM summer camps. The applicant has clearly demonstrated an ability to encourage diversity, broaden opportunities, and enable participation of multiple groups. The proposed research on climate change and episodic depletion of tropospheric ozone will benefit society.