Intellectual Merit Criterion

Overall Assessment of Intellectual Merit
Excellent

Explanation to Applicant
The applicant has an outstanding academic record and a very strong cross-disciplinary education in the mathematical/physical and life sciences. Prior to entering into the Psychology graduate program at Princeton, the applicant has acquired significant research experience highlighted by a peer-reviewed first-author publication. The applicant's academic excellence has been further recognized by very competitive merit-based scholarships from his undergraduate institution, the University of Sao Paulo. All three references provide further evidence that the applicant has outstanding potential to have a significant impact on our advancement of knowledge. The research proposal is of exceptional quality, well thought out and clearly written, also including anticipated results and valid alternatives. Completion of the proposed research will significantly advance our knowledge on what constraints - energy balance or information feedback - dictate vocal development. Applying his cross-disciplinary training in mathematical and life sciences, the applicant appears to be poised to make significant discoveries in the near future.

Broader Impacts Criterion

Overall Assessment of Broader Impacts
Excellent

Explanation to Applicant
The applicant's passion for engaging the public with science is tractable throughout the publication. At University of Sao Paulo, the candidate established an online platform to make lectures available to the general public. The applicant received a best student paper award for his work on determining accessibility and social issues constraining the general public's exposure to online lectures. At Princeton, the applicant has engaged in outreach activities teaching underprivileged High School students about Neuroscience. The application paints a picture of a very socially conscious individual with a strong commitment for engaging the general public in science.

Summary Comments
Overall, this is an exceptional application, which provides clear evidence for the applicant's academic excellence across different disciplines, ability to apply his academic training to his own research, and synthesizing an outstanding research proposal with great potential to significantly advance our knowledge on vocal development. The applicant also has demonstrated a strong commitment to outreach activities to make science lectures available to the general public. The applicant is a superb candidate for GRFP support.

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit
Excellent

Explanation to Applicant
The applicant has demonstrated a significant research background and strong intellectual merit. The applicant has a strong academic record and ability to communicate sciences, as demonstrated through 2 peer-reviewed papers (one first author) and several presentations, including at international conferences. The applicant is also a recipient of an undergraduate research scholarship (FAPESP). The applicant has proposed to understand whether there is a model of energy and information trade-offs that best predicts the shape of vocal developmental trajectories in mammals (marmoset monkeys). The proposal seems feasible

and well thought-out.

Broader Impacts Criterion

Overall Assessment of Broader Impacts
Very Good

Explanation to Applicant
The applicant has demonstrated a strong background in outreach and broader impacts. This including creating of high equality web content in math and engineering. The applicant has proposed to work with the Princeton Splash which exposes high school students about science, and the ReMatch program, which focuses on involving undergraduates in research. The application could be strengthened by a more tangible product from the research proposal that can be used for broader impacts that is initiated by the applicant.

Summary Comments
Overall the applicant has demonstrated strong intellectual merit and significant previous research experience with potential to make an impact in the STEM fields. The applicant also has a history of outreach and mentorship, with the goal of reaching disadvantaged populations. One weakness of the proposal is the lack of tangible broader impacts initiated by the applicant based off the proposed research.

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit
Excellent

Explanation to Applicant
Application was well developed and highly competitive. This will provide valuable information across multiple disciplines. There are adequate resources and the applicant is well suited for the project.

Broader Impacts Criterion

Overall Assessment of Broader Impacts
Excellent

Explanation to Applicant
This project has transformative ideas that can be translated to multiple systems. The application has the ability to advance desired societal outcomes in multiple ways.

Summary Comments
Very innovative project from a highly skilled applicant.