Intellectual Merit Criterion

Overall Assessment of Intellectual Merit
Excellent

Explanation to Applicant
The applicant graduated from La Sierra University with a good GPA. They have extensive experience as a TA, and they are currently in a post-Bac program at the NIH. They have 1 publication, with another in review and a few in preparation. They also have multiple presentations. In addition, they have several honors and awards. They have extensive laboratory experience with a very broad breadth and depth of work. The proposal is nicely written with a good discussion of potential pitfalls and alternative approaches. The research is likely to advance the field. The reference letters are all very strong.

Broader Impacts Criterion

Overall Assessment of Broader Impacts
Excellent

Explanation to Applicant
The applicant has spent a lot of time thinking about DEI and they have extensive volunteer and leadership experience. They also volunteered in the library system tutoring adults and lead a sub-team in a food distribution program. They also worked as a program manager volunteering in Africa for an extended time. Currently, they are working on health disparities research. There was a very nice discussion on how they will promote DEI in their graduate career. They also discussed how they would disseminate their results.

Summary Comments
This proposal is from an applicant who has already made a very strong contribution to the scientific field. They have thought about how they will continue to promote DEI in their field, which will be very important. The project is novel and is likely to be successful and their reference letters are very strong. They have significant leadership and volunteer experience. Overall, this is a very nice proposal from a strong applicant.

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit
Excellent

Explanation to Applicant
Very impressive applicant. His proposal is well developed due to his postbac at the NIH--but it reflects true commitment and understanding. All this with great outreach. Publications. Proposal is likely the result of the applicant rather than copied and pasted from PI.

Broader Impacts Criterion

Overall Assessment of Broader Impacts
Excellent

Explanation to Applicant
Demonstrated excellence-a year in Africa, helping the community--

Summary Comments

Exceptional scientific with publications and awards and broader impact with major accomplishments. The broader impact is amazing in innovation and extent--clearly in their DNA.

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Very Good

Explanation to Applicant

Strengths: - Impressive collection of honors and awards, including recognition from the NIH Post-bac Fellowship program, Kwirim Fellowship Award, and the College of Arts and Science Dean's Outstanding Student Award. The candidate has actively participated in poster presentations and co-authored a published paper, with several manuscripts currently in progress. This is even more impressive considering the candidate's background as a Cuban refugee. - Exceptional letters of support emphasize the candidate's unique potential as a researcher, academic excellence, and outstanding instructional skills. - The candidate demonstrates high motivation and drive even beyond the neuroscience field. The candidate research experiences range from microbiology (SEA-Phages with Dr. Diaz), engineering/construction (building a Faraday cage for EEG data acquisition in Dr. Le Dantec's lab), marine physiology (Dr. Trueblood's lab), to advanced computational skills in Dr. Burgess's lab. Notably, the candidate excelled in each of these endeavors, evidenced by multiple poster and paper presentations. This capacity to excel in diverse research fields positions the candidate as an ideal individual to bridge disciplines, think innovatively, and make significant contributions to science. Weaknesses: - Over six years in Dr. Le Dantec's lab, the lack of published peer-reviewed publications is a weakness - The other weaknesses are only associated with the proposed research project: o Aim 1, which involves using zebrafish at late embryonic stages to identify anatomical volumetric relationships between brain regions, appears to lack substantial advancement beyond the candidate's previous work at Dr. Harold Burgess's lab. o The rationale behind focusing on the CHD8 gene specifically is unclear, raising questions about the significance of this choice. Further, the absence of behavioral or other physiological measures besides volumetric relationship between brain regions affected by this gene makes it challenging to assess the potential impact of the findings. o The decision to focus on one point in development (already developed embryonic brains) instead of exploring multiple developmental times to pinpoint the period when the CHD8 gene is most influential remains unclear.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

The candidate possesses an outstanding potential for broader impact. Their unique combination of a minority background, extensive scientific interests, academic excellence, and impactful outreach activities stands out. This includes holding leadership roles in various campus outreach organizations dedicated to supporting minority students. Furthermore, the candidate has contributed to the community by tutoring adult language learners, aiding them in obtaining citizenship and securing employment. Remarkably, the candidate has demonstrated leadership within the La Sierra University Food Distribution Program, where they led a subteam to distribute food to vulnerable families. Additionally, their commitment to societal well-being is evident in their extraordinary 9-month experience in Mauritania, Africa. During this time, they collaborated with the local government to create educational materials, establish mobile clinics, and facilitate the distribution of food and medical supplies to locals affected by diseases. This multifaceted engagement demonstrates an exceptional blend of intelligence, drive, and societal awareness, uniquely positioning the applicant as an ideal candidate to have major impacts not only within academic and scientific spheres but also as a driving force for positive change in diverse communities.

Summary Comments

This applicant presents a compelling profile marked by a diverse array of strengths. The applicant has accumulated multiple honors, awards, and academic achievements, with a track record of successful poster and paper presentations. Exceptional letters of support attest to the candidate's unique potential, academic excellence, and instructional talent. The applicant's motivation and intellectual curiosity extend beyond neuroscience, as evidenced by their successful involvement in various scientific fields. Further, the applicant's outreach activities, including leadership roles in campus organizations and significant community service, demonstrate a unique blend of intelligence, drive, and societal awareness. The minor weaknesses of this application include a project's lack of significant advancement beyond previous work, unclear rationales in choosing specific genes to study, and the fact that besides multiple years of research experience have resulted in only one peer-reviewed publication. Overall, the applicant possesses a remarkable combination of academic prowess, interdisciplinary engagement, and a strong commitment to making meaningful contributions to both scientific endeavors and community welfare.

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Very Good

Explanation to Applicant

Strengths - Applicant has good grades. Applicant has good Letters of Recommendation. Applicant appears to be a hard worker. Applicant has one coauthor publication. Weaknesses - Applicant has stated to have 3 manuscripts under review but only 1 actually is provided. Other 2 manuscripts are in preparation without context as to a submission date or journal identification. Applicant doesn't explain how the grant will promote depth and breadth of knowledge or career development opportunities.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Very Good

Explanation to Applicant

Strengths - Applicant had the foresight to identify potential pitfalls of the project, as well as alternative approaches should the primary one potentially fail. Weaknesses - Proposal has minor grammatical errors. Hypothesis in Aims 1 & 2 could be better formulated. For instance, in Aim 1 you could state that you are identifying certain brain regions of interest instead of broadly stating all brain regions. With regards to Aim 2, could you list a particular pair of brain regions that are the most significant to study? As written, you have stated this rather broadly. It is hard to determine whether the candidate will be learning a new skill or technique? Also, the candidate has not listed the number of zebrafish need for the project so as to give context for how many is needed to properly power their statistics. Applicant didn't mention where they intend for the results to be disseminated. It is unclear how the work will vertically advance their research field.

Summary Comments

It would be nice to learn how the applicant envisions this grant improving their personal and career development. For instance, the applicant could briefly mention something such as 'if awarded this grant will aid with my ability to go to conference workshops to improve my knowledge of...'. Additionally, it would be neat to learn more about the particular courses they intend to take to help with improving a deficiency they have with their breadth of knowledge.