1. Introduction

We would like to thank our reviewers for their detailed evaluation of our application. Although generally positive, there were two major concerns in the **Resume and Summary of Discussion**, and three minor concerns in the individual critiques. Our responses to these critiques follow below. The body of this resubmission has been updated to reflect the current status of the training program. Sections with major revisions are marked by a solid line on the left border, whereas minor revisions are marked by a dashed line.

The first major concern was an apparent '*lack of emphasis on training in state-of-the-art or novel biomedical research approaches'.* Reviewer #1 referred to '*a failure to transition training to an emphasis on what has been called a "convergent" approach, with informatics, genomics and computational approaches'.*

The faculty and the administration at UAB are fully cognizant of the need for training to encompass advances in computational technology and changes in scientific emphasis. In January 2011, the Department of Pathology created a new Division of Informatics, currently headed by Dr. Jonas Almeida; and the Department of Microbiology focused additional support on its long-standing (Biomedical Informatics) unit, headed by Dr. Elliot Lefkowitz. Both of these distinguished academicians have ongoing collaborations with faculty mentors and their trainees, and both have joined our training program as mentors. A number of educational and training opportunities have been developed in these and other departments. These include GBS722: GGS Bioinformatics, which is focused on learning how to use large-scale, generic databases; GBS 755: Integrative Bioinformatics, which is focused on practical uses of semantic web and cloud computing technologies and resources; BST 676: Statistical Bioinformatics, which is focused on analysis of data generated by high throughput genomic technologies; CIS 640: Bioinformatics I and CIS 641: Bioinformatics II, which are focused on computational methodologies in bioinformatics; the CCTST-BMI Summer Series: CTSA Informatics Competencies, which is focused on key topics in biomedical and health informatics for clinical and translational science researchers; and an NHGRI short course which is focused on statistical methodologies and algorithms used to evaluate next-generation sequencing databases. A more complete description of these courses can be found in Appendix C4. Our trainees are expected to attend at least one of these courses.

In addition, UAB is making major efforts to provide opportunities for trainees to develop and certify training in the developing fields of genomics, proteomics, and translational studies. A translational science course for post-doctoral scholars is taught by Drs. Chaplin and Schwiebert, both of whom are long-standing mentors of this training program. Other courses include GBS 724: Principles of Genetics; MGE 725: Advanced Medical Genetics; GBS720: Genomic Structure and Function; GBS 721: Genetic Epidemiology; GBS 723: Model Systems for Genetic and Epigenetic Analysis; and GMB/PHR 744: Proteomics and Mass Spectroscopy. A certificate program in Translational and Molecular Sciences is open to all students in a PhD or MD/PhD program. The HHMI program is another avenue available to allow trainees to gain expertise in translational approaches to biomedical studies. Finally, the Analytic Imaging and Immunoreagent Core provides training in the latest imaging techniques and approaches.

The second major concern was that '*Some post-doctoral trainees left training program without any publications*.' Thus, '*the committee considered the request of five (5) post-doctoral slots not scientifically justified and recommended three (3) post-doctoral slots*.' For years 25-30 (2002-2006), 15 post-doctoral trainees finished their T32 training at UAB, averaging 1.9 papers with their mentors. Of these, 10 (67%) published at least one paper, with 7 (47%) publishing at least one first author manuscript. For years 31-35 (2007-2012) 13 post-docs, five (38%) now with faculty positions and two still in training, have completed their time on the T32, publishing an average of 2.7 papers. Of these, 11 (85%) have published at least one paper, with 9 (69%) publishing at least one first author paper. The improvement in publications over the past 5 years has occurred in the context of our new approach to monitoring post-docs through the Topics in Profes-sional Development Course and the development of a new yearly evaluation procedure for post-docs that includes participation of the training grant faculty in the new T32 Program Faculty Committee. However, per the recommendations of the study section, we now request only three post-doctoral positions instead of five.

Lack of an organizational chart. An organizational chart has been added.

Lack of R01 support for a subset of our faculty mentors. The **Resume** stated, '*faculty members who are not as well funded or more junior will serve as co-mentors. This is an excellent approach to offering trainees broad research experiences while maintaining high-level mentoring'.* With funding rates approaching single digits, achieving continuous, uninterrupted R01 support has become increasingly difficult. Those who lack funding today may have funding tomorrow, and vice versa. Our approach is to divide our faculty into two categories, core (those who have funding and serve as primary mentors) and content (those who do not). These assignments are flexible, changing as funding changes.