

ASU Budget Justification for [REDACTED]

LIFE AFTER DEATH: THE ROLE AND COMPOSITION OF THE THANATOMICROBIOME IN THE DECOMPOSITION OF MAMMALIAN ORGANS

- A. **SENIOR PERSONNEL.** Dr. [REDACTED] has requested one-month summer salary (\$6,563) for each year of the two year project.
- B. **OTHER PERSONNEL.** One MS graduate student will be hired at a cost of \$20 K per year, which is the going rate at ASU. Four undergraduate minority students will be hired part time. The anticipated cost of the undergraduate student is \$4 K per person per year.
- C. **FRINGE BENEFITS.** Fringe for faculty is set at 27.36% and for graduate and undergraduate students is set at 7.65%.
- D. **EQUIPMENT.**
- E. **TRAVEL.** There will be regular trips to [REDACTED] to collect tissue samples [REDACTED] by Dr. [REDACTED]. The round trip between ASU and the [REDACTED] is estimated 20 miles at a rate of \$ 0.555 per mile. The cost for 2 trips per week (at \$22.20 per week) for 30 weeks is \$666 per year. Dr. [REDACTED] will travel to one national scientific meeting ([REDACTED] American Society for Microbiology general meetings) to disseminate research results (\$1,334). A typical meeting is 4 days. The cost of a hotel is \$150 per night and meals run about \$50 per day. Hence, hotel and meals for 4 days typically costs \$800 per day. Plane fare and local transportation is estimated to cost \$534 for a round trip between ASU and meeting city. Hence, the total for attending a 4-day meeting is: \$1334 per person. Travel totals to \$2000 per year.
- F. **PARTICIPANT SUPPORT COSTS.** One student will travel with Dr. [REDACTED] to a national scientific meeting ([REDACTED] American Society for Microbiology general meetings) to disseminate research results (\$1333 per year). A typical meeting is 4 days. The cost of a hotel is \$150 per night and meals run about \$50 per day. Hence, hotel and meals for 4 days typically costs \$800 per day. Plane fare and local transportation is estimated to cost \$534 for a round trip between ASU and meeting city. Hence, the total for attending a 4-day meeting is: \$1333 per person.

G. OTHER DIRECT COSTS.

1. MATERIALS AND SUPPLIES.

Molecular biology and 454 sequencing costs: Based on past experience, it costs \$7,748 per/year in consumable molecular biology supplies. These prices include pipette tips, disposable gloves, Bioanalyzer chips (\$732/package of 25), N₂ gas for nebulization, Phase Lock Gel (5'prime.com) tubes, Lysing Matrix E tubes, GlycoBlue, 15 mL and 50 ml Falcon tubes, 1.7 ml centrifuge tubes, molecular grade agarose, and chemicals: phenol, chloroform, isoamyl alcohol, isopropanol, and absolute ethanol. The Noble laboratory charges \$1200 for one 454 pyrosequencing run. The sequencing run includes the library preparation kits, the emulsion PCR kits and the sequencing kit. Each run yields about 100,000 to 200,000 sequences with each sequence about ~500 bp. This project will require 15 runs per year at a cost of \$18,000 (4 multiplex samples x 15 runs= 60 samples), which works out to about \$36,000 for the entire two-year project.

Computer: The Master student will need one Macintosh Pro laptop computer (\$3000) in the first year of the project as bioinformatics of the massive amount of sequencing data that will be generated in this project (3 to 6 million sequences) is a major component of the study. The computer will be used to analyze 454 outputs using Noble's C++ programs that operate on Macintosh computers (see programs at peteranoble.com/software.html).

Software: \$2,000 per year is requested in year 1 to purchase new software for spreadsheet analysis (Microsoft Office: \$140.00), statistical analysis (SAS JMP: \$500.50), editing large datafiles (Barebones BBedit, \$100), and artistic drawing program (Canvas 14; \$600.00) for publications. Software available in the Noble laboratory is 10+ years old and the ██████████ Laboratory needs new software to analyze the data and publish papers.

Consultant services: Dr. Alex Pozhitkov will help us with computer programming as he is an expert in C++ program and has developed and tested many computer programs we have used in the past (e.g., Splitter, which is used to split the sequencing files by multiplexed barcodes). He charges an hourly rate of \$25 and we anticipate that he will work for us for 20 hours per year (\$500 per year). He will also serve as a

consultant in terms of analyzing the sequencing data and when writing manuscripts.

Noble has worked with Pozhitkov for over 10 years – which has resulted in 10+ high quality publications.

H. TOTAL DIRECT COSTS (A THROUGH G).

I. INDIRECT COSTS Only salary and fringe are subjected to indirect costs at Alabama State University at a cost of 44.5%.