

SAMPLE BUDGET JUSTIFICATIONS

This appendix contains excerpts from Budget Justifications from 2 actual grant applications. The first is part of a sample Budget Justification for a sample budget such as the one shown in Part III of this book, in the section entitled "Administrative and Financial Information." This is followed by the Budget Justification from the proposal for which the Summary Statement is shown in Example B, Appendix V, a proposal that the Reviewers considered to be "an extremely well-written grant proposal." The examples of Budget Justifications shown here are not the only way to write a Budget Justification, but they illustrate a format that I considered effective after listening to about 600 budget discussions (3 meetings per year \times 2 years \times 100 proposals per meeting = 600!) during the time I was a member of an NIH Study Section.

BUDGET JUSTIFICATION EXAMPLE A

(1) Personnel

\$145,777

(a) Dr. Jones, Principal Investigator (salary + fringe) \$68,185

Dr. Jones has planned this project, including the specific experiments to be carried out. He will be responsible for managing the project and for analyzing and interpreting the data with the help of Dr. Smith. He and Dr. Smith will jointly develop manuscripts for publication as is warranted. Dr. Jones has specific expertise in ____ . He will spend 100% of his time on this project year round. He has a long track record in the field of ____ .

(b) Dr. Smith, Investigator (salary + fringe) \$39,892

Dr. Smith is an established investigator in the field of ____ and will provide the "hands on" experience with respect to ____ . She will be responsible for carrying out the ____ aspect of the experiments described in the methods section of the proposal. This project cannot be carried out without a person with the expertise and competence of Dr. Smith for successful resolution of the experiments. Dr. Smith has been with the University of ____ for 6 years and has collaborated with Dr. Jones for the last 3 years. They have been a very successful team and have published 11 papers in well-reviewed journals during their collaboration.

Note that Dr. Smith's salary is based on \$45,800 for full time. She has a three-quarter-time appointment at the university during the academic year and plans to devote 75% of her time to this research project. ($\frac{3}{4} \times \frac{3}{4} = 0.56 \times 0.75 = 0.42 \times$

\$45,800 = \$19,236). During the 3 summer months, she will work full time at the university and devote 100% of her time to this project. ($1.0 \times \frac{1}{2} = 0.25 \times 1.0 = 0.25 \times \$45,800 = \$11,450$). Fringe benefits have been calculated at 30%.

(c) Mr. West, Research Assistant (salary + fringe) \$22,100
Mr. West will devote 100% effort to this project on a year-round basis. He has been working with Dr. Jones for the last 9 years and has developed unique expertise in the field of _____. Mr. West has been a co-author on 15 publications during his time in Dr. Jones's laboratory. His full-time effort is essential for carrying out the experiments on _____ which are an integral part of the total research project.

(d) Technician (To be named, salary + fringe) \$15,600
In addition to Mr. West, the research assistant, a medium level technician is essential for carrying out this project. The laboratory currently does not have someone in this category. The intention is to hire a person with a B.A. degree who has extensive experience in carrying out _____ experiments. We will specifically look for a person who has had hands-on experience working with _____ in a system similar to the one in which we propose to work in this project.

(2) Consultant Costs \$0

Dr. Northstar, consultant, is a full professor at the University of _____ department of _____. She is a nationally known expert in _____ and is currently writing a book on this subject. She has agreed to be a consultant at no charge for the _____ part of the project; she will advise on _____ and will also provide help with data analysis (see letter in Section 7 of the Research Plan).

(3) Equipment \$32,560

(a) Zeiss microscope, model XYZ \$29,710
We have been using a microscope that belongs to Dr. M in the department of _____. Dr. M will be leaving the University of _____ at about the time that this project is scheduled to begin if it is funded. Dr. M will take his microscope with him to the University of _____. Because a good-quality microscope is essential to carrying out this research project, we are requesting money to buy a model XYZ Zeiss microscope.

(b) Diamond knife \$2,500
Dr. M. will be taking his diamond knife with him when he leaves this department. Therefore, we are requesting \$2,500 to purchase a diamond knife for cutting thin sections for these experiments.

(c) Embedding oven \$350
We have been using Dr. M's embedding oven. He will take this piece of equipment to the University of _____. We are therefore requesting \$350 to purchase an embedding oven.

(4) Supplies \$9,384

(a) Rats (including maintenance) \$1,840
For additional details about budget justification, see Example B below.

BUDGET JUSTIFICATION EXAMPLE B

This Budget Justification; is from a grant proposal that reviewers considered to be "an extremely well-written grant proposal." Example B in Appendix V is the Summary Statement for this proposal.

- (1) Personnel \$ ____
- (a) PI and Collaborating Investigator \$ ____
 Dr. ____ and Dr. ____ have planned this project and will, for the most part, plan the specific experiments to be carried out. We will be entirely responsible for analyzing and interpreting the biochemical data; we will also plan the morphological experiments, but because neither of us have "hands-on" experience in this area, the work will of necessity be done by someone experienced in morphological techniques and the anatomy of the ____
- (b) Research Associate (To be named) \$ ____
 This is the person who will provide the "hands-on" experience and will (with the help of the research assistant) be responsible for carrying out all the morphological aspects of the experiments described in the "Methods" section of the proposal. This project cannot be carried out without a morphologist of this level of competence and someone to help with the more routine aspects of the lengthy experimental work-up. A search cannot be initiated for this individual unless and until funding is obtained. The research associate would be responsible for carrying out and helping to interpret the morphological experiments. This individual would have to be experienced in both light and electron microscopy and be familiar with ____ anatomy in particular. He/she would presumably have had 3 or more years of postdoctoral experience in ____ morphology.
- (c) Research Assistant \$ ____
 Mr. X will assist in carrying out both the morphological and biochemical experiments. He is familiar with tissue work-up, sectioning, and photographic techniques and will also be able to assist with handling of animals, as well as the more routine aspects of the biochemical assays. He will be primarily responsible to the Research Associate morphologist, but will also be directly responsible to the PI and Co-investigator in helping to set up certain ____ experiments and run the necessary assays.
- (2) Consultant \$0
 Dr. ____ at the ____ Hospital, Department of ____ is a known expert in ____ and is currently finishing a chapter on this subject. He has agreed to be a consultant, at no charge, and will also provide ____ material from ____, as they become available (see letter in Section 7 of the Research Plan). In addition, he will help us procure such material from other sources.
- (3) Equipment \$23,805
- (a) Zeiss microscope \$21,605

(b) Diamond knife \$2,000

The ___ Morphology Unit at ___ is a well-equipped, but heavily used facility. Most equipment necessary to carry out this project is available through the Unit; however, Dr. ___ the Unit head, has indicated that because of the heavy use required for carrying out this project, a separate light microscope and diamond knife will be essential for our work. Fluorescence optics will be necessary for ... experiments to localize and quantify various ___, e.g., ___. It is estimated that this microscope will be used substantially on a daily basis by both the Research Associate Morphologist and the research assistant. In addition, it will be used frequently by the PI and Collaborating Investigator to review the results of experiments and discuss the interpretations with the Research Associate morphologist.

(c) Embedding oven \$200

Although embedding ovens are available at ___, we have been advised by the Morphology Unit to have our own for the purposes of optimal curing of plastic sections.

(4) Supplies \$11,739

(a) Animals \$2,687

We consider that a full-time Morphologist with a full-time Research Assistant will be capable of carrying out about 2 experiments (each having 10 to 12 morphological samples and an equivalent number of biochemical samples)/week, for 3 weeks of every month. The 4th week will be used to record and assess the results, including taking and processing photographs. We are thus calculating costs on the basis of 38 weeks for experiments, taking into account 3 weeks vacation time/year.

(i) Eggs \$979

We estimate 2-1/2 dozen eggs/week at \$6/dozen plus \$8 delivery charge = \$874 at current prices. With 12% inflation by the beginning of the project period, this cost would be \$979 for the first year of the project.

(ii) Other Animals \$1,708

The second experiment each week will involve bovine ___ half of the time and in vitro experiments in newborn and young rats during the remaining weeks.

• Cow (organ) \$1,140
 $\$2/_ \times 20 _ + \20 delivery charge =
 $\$60/\text{week} \times 19 \text{ weeks} = \$1,140.$

• Rats (Cost and care) \$568
 Current price of one litter of rats (newborn) \$18.65. We project \$20 by the beginning of the project period. One litter/week for 19 weeks = \$380. Animal room charge for maintenance of one cage of rats at \$188/year/cage = \$188. Total for rats and care = \$568.

- (b) Medium and serum \$920
- (i) Medium \$570
 We estimate a total of 24 chick embryo ___ cultures/week for the total of morphological and biochemical samples. These samples require 20 ml of medium/flask, i.e., one 500-ml bottle/week. (Bovine ___ will be maintained in reusable glass flasks and will require only small amounts of medium.) We project \$15/bottle by the beginning of the project period. $15 \times 38 \text{ weeks} = \570 .
- (ii) Serum \$350
 Fetal calf serum, essential for the maintenance of chick embryo ___ in culture, is \$29.20/100 ml. We estimate 12 bottles/year. $29.20 \times 12 = \$350$.
- (c) Chemicals, glassware, plasticware \$1,812
- (i) Chemicals \$600
 Antibiotics, buffers, assay reagents for biochemical experiments, radioactive precursors for uptake and incorporation studies, etc. We estimate \$600.
- (ii) Plastic flasks \$912
 We have found X flasks to be optimal for ___ cultures. 24 flasks/week at \$1/flask for 38 weeks = \$912.
- (iii) Counting vials and scintillation fluid \$300
 We will be as conservative as possible in this area, but the project will require a small number of incorporation and uptake studies. We estimate \$300 in this category.
- (d) Microscopy supplies \$3,450
- (i) Dissecting instruments \$1,000
 For example, microdissecting scissors costs approximately \$100. We estimate \$1000 in this category.
- (ii) Fixatives \$1,500
 Glutaraldehyde, paraformaldehyde, osmium tetroxide, dehydrating agents, embedding compounds, and stains for light microscopy. We estimate \$1500.
- (iii) Other supplies \$950
 This includes grids, grid holders, and stains for electron microscopy and embedding molds, disposable beakers, disposable gloves, slides, cover slips, and vials required for light microscopy.
- (e) Photo supplies \$2,870
- (i) Black and white film \$456
 2 rolls/experiment, \$3/roll, 2 experiments/week $\times 38 \text{ weeks} = \456 .

- (ii) Color slides \$304
1 roll/week × \$8/roll for film and processing × 38 weeks = \$304
- (iii) Paper for printing black and white photos \$1,710
We plan to use multigrade resin paper, 50 sheets/experiment (including test sheets). 2 experiments/week = 100 sheets/week. \$45/100 sheets × 38 weeks = \$1,710.
- (iv) Photochemicals \$400
For processing black and white film and prints. We estimate \$400/year.

(5) Travel \$2,550

Because of the nature of the proposed work, which involves ____ as a model of ____, it will be important for the Research Associate to go to both the ____ meeting and the ... meeting. In addition, it will be important for the PI to attend conferences specifically concerned with the latest development on ____ once a year to keep up with both the clinical and research areas related to this disease. In November, 19XX, a ____ symposium (II) took place in _____. Another ____ Symposium is scheduled in early 19XX (see ____ Newsletter, Vol. X, No. Y, page Z, Sept. 19XX)

The total figure for travel is based on \$850 for this year's ____ travel budget. (This figure was arrived at by the ____ Committee at ____, calculated on the basis of budget fares and double room occupancy.) Assuming similar costs for the other 2 meetings, in the same geographic area, and allowing a small increment for inflation, we are estimating \$2550 in the travel category for the first year.

(6) Other expenses \$3,280

- (a) Publication costs \$1,000
These include drafting, photography, photocopy charges, etc. Publications resulting from this project will of necessity involve numerous photographic plates. The current page charge for half tones, for example, in the Journal of XYZ is \$70/page for short papers and \$100/page for longer papers. 300 reprints for a 6-page article will cost at least \$150.

We estimate at least one major publication/year:

- | | |
|-------------------------------|-------|
| (i) Drafting | \$200 |
| (ii) Photographs | \$150 |
| (iii) Page charges (6 × \$70) | \$420 |
| (iv) Reprints (500) | \$230 |

| | |
|-------|--------|
| Total | \$1000 |
|-------|--------|

- (b) Users' fee for the Morphology Unit \$2,280
Because of increased expenses and decreased funding, the Morphology Unit at ____ has instituted a \$3-per-hour "use fee" for all users.

The items included in the users' fee do not cover any supplies requested above; they do include service contracts, and use of available instruments, liquid nitrogen, etc.

The budgeted amount is based on 20 hours of use/week.

(7) Budget for subsequent years

- (a) Each category is increased by 4% per year to account for inflation.
- (b) No additional equipment is requested in years 02 and 03.
- (c) "Other Expenses" is increased by \$1000 in year 03 for sharpening the diamond knife.