While NSF does not offer detailed examples of budget narratives on their websites, it has been noted in conferences that the budget narrative is an excellent place to continue “selling” your project, by pointing out the various strengths of faculty and resources, and the well-planned proposal through the suitable allocation of funds over the project period. Make certain that the numbers included on the Budget Justification match those on the budget pages and in the narrative.

Unless otherwise noted, the budget justification is limited to a maximum of three pages.

**Any instructions and all examples in blue text must be removed before upload, leaving only headings in bold text.**

**Budget Justification**

1. **Key Personnel** (Includes PI and Co-PI/s)

For each person, it is recommended that the following be included for clarity:

1. Role, position, and suitability to project:

Professor Goldwyn will serve as PI on this project. A Professor of Microbiology at CU Denver, he has researched nanostructures extensively. *Enter relevant work or accomplishment here, which shows suitability to project*).

2. List specific role in project, e.g., directing the project, contributing a specific expertise, showing how this is the best person to lead the project.

3. Commitment of effort to project

Dr. Goldwyn is committed to the project for 3 calendar months per year. *NSF forms request commitment be listed in academic (9 month), summer, or calendar months.*

4. You may choose to list 1st year salary, or multiply annual salary with commitment effort. It is optional, but in general, an explanation of your salary should be made. If you are committing 1 person month of your total academic time, you should include an explanation that says you are requesting one academic month of your base salary be funded by this proposal, should it be awarded. If you are requesting money which may be used for summer, or for work on the proposal during the academic year, you should request summer months. *Note: There is a limit of 2 summer months total per PI for ALL of their NSF proposals, which may not be exceeded without prior NSF approval.*

Please remember to escalate salary for subsequent years, as natural rate of inflation can cause a multi-year project to become under-funded in the later years. A 3% or 4% escalation is standard. (In some cases, PIs have chosen to exclude escalation for their own salaries for various reasons. One reason may be to focus on the cost of supplies or other expense which is vital to the execution of the project, and to fit the budget cap instituted by the funding agency.)

*Example:*

Jane Smith, Co-PI of the project, is Associate Professor ofthe Department of Computer Science at CU Denver. She has been funded for several NSF education initiatives integrating mathematics, computer science and engineering for college and pre-college students, and is noted for her work in xxx. (*You may include area of expertise, notable accomplishments, especially those which are relevant to the project.*) Her expertise in computational geometry will assist in the project goal of designing protein structures that bond easily and in flexible forms.

She and her collaborator Professor John Jones of MIT (subcontractor) are both committed for 0.5 summer months, respectively. An escalation rate of 3% per year for Professor Smith’s salary has been calculated for the period.

**B. Other Personnel** (Includes non-Key personnel; that is, members who will not be playing a leadership role, but will contribute through their labor, such as graduate students, postdocs, technicians, and administrative staff)

*Example:*

*Computer Science graduate student:* Dr. Smith requests one graduate research assistant for the project, (biosketch enclosed under Supplementary Documents). His current research work is in algorithms for self assembly, and he will devote 100% of his research time to the project. His stipend is $24,960\* for the first academic year and summer, with an escalation of 3% in following years.

*\* You should check NIH and NSF websites for salary minimums for predoctoral and postdoctoral students.*

*Postdoctoral fellow and technical support:* Dr. Goldwyn requests one postdoctoral associate and one technician to assist in the building of protein structures. The postdoc will be recruited to commit 100% of his or her time at the salary of *$40,000* in the first year. A technician is also requested at 50%. The postdoc will be responsible for performing and for directing the technician to perform the biological experiments, including all molecular biology steps, phage manipulation, protein expression and purification. Salary is escalated by 3% for both individuals in following years.

**C. Fringe Benefits**

*Fringe Benefits change yearly, and should be confirmed before submitting your budget to Research Administration.* Updated rates may be found on the Office of the Vice Provost Website http://www.CU Denver.edu/central/research/FringeBenefits.htm

As determined by DHHS negotiations for the year of July 1, 2008-June 30, 2009 are below. Feel free to cut and paste them to justify your fringe rates.:

* Faculty who hold a 9 month appointment have a 25.7% benefit rate for the academic year and an 8.5% benefit rate during the summer months.
* Faculty with 12 month appointments have the 25.7% rate applied throughout the year.
* Full time staff employee benefits are calculated at 25.7% of total salary.
* Postdoctorals receive a 15% fringe benefit rate.
* Graduate student benefits are calculated at 8.5% for only summer months.

Following the above guidelines for our previous examples, the 25.7% benefit rate is applied to Dr. Goldwyn's on his salary for 3 calendar months. 8.5% is applied to.5 summer months for Dr. Smith. The 25.7% rate is applied to Dr. Goldwyn’s technician, a full-time employee, for all dedicated effort, and the 15% benefit rate is applied to Dr. Goldwyn’s postdoc. Dr. Smith’s computer science graduate student receives 8.5% on 3 summer months.

*Example:*

Following the DHHS negotiated rates for CU Denver University (specify campus) Boston campus, Dr. Goldwyn, a fully appointed faculty member, receives a 25.7% benefit rate through the year. Multiplying his salary for the first year by 25.7%, we request the amount of 1,766 ($6,872\*.257=$1,766) for the first year, escalating by 3% in subsequent years.

Dr. Smith will be devoting .5 summer months to the project, and we request .05\*8195, or $697 for her fringe benefit in the first year, with 3% escalation in subsequent years.

Continue listing for each salaried personnel.

**D. Equipment**  (Items of durable value exceeding $5,000)

List the equipment you are requesting for the project. Include model no. and price quotes from a reputable source, listing name of source. Explain the necessity of the equipment to the project, and how this item will be used by the different parties in the proposal.

**E. Travel**

List total amount requested in first year, with breakdown of expenses, e.g., airfare, hotel, per diem, and mileage reimbursement. If you know which conferences you will be attending, providing this detail would be helpful, as this is one gauge of the breadth of work you will be doing, presenting results and participating in academic exchange. Please specify domestic or international travel, and include reasonable amounts. Please read the RFA carefully to ensure that you’ve included any required travel, for instance for the PI to travel to NSF-sponsored events relevant to the project.

*Example:*

The total estimated amount of $5,000 is budgeted for travel expenses to attend relevant conferences and workshops and present findings. This includes $2,000 for Dr. Goldwyn and his postdoc to travel to 1 conference per year, such as the American Society for Microbiology or the Materials Research Society in the United States, to present research results. It would cover airfare, hotel, and per diem. Dr. Smith requests $3,000 total per year for both domestic and foreign travel with her graduate student. Domestic travel is budgeted at $1,000, to cover airfare, hotel, and per diem, and foreign travel at $2,000. Total requested for all four years is $20,000. Possible conferences include the ACM Symposium on Computational Geometry, International Conference on Algorithms and Logic Programming, Bellairs Winter Workshop on Computational Geometry ACM/SIAM Symposium on Discrete Algorithms, and the Canadian Conference on Computational Geometry.

**F. Participant Support Costs**

(A participant is defined as an educational participant, someone who is not bound by contract in the way an employee is to produce a specific product. Usually the participant is participating in an educational capacity, and benefits from the project’s educational goals)

List the stipend each participant will have, and what expenses are figured into the provision of the stipend.

List amount allotted for travel. Do not add this amount to the amount listed in E. Travel, which is for key personnel and other personnel. Explain the purpose of the travel.

List amount allotted for subsistence, which could be a food per diem. Specify the period you are providing assistance for subsistence in.

List any other expense associated for the participants, and how this is relevant and necessary to the project (e.g., supplies, printing of materials, etc.).

**G. Other Direct Costs**

1. *Supplies:* Expenditures budgeted for this proposal are costs that can be identified specifically with this particular sponsored project and are required in the direct performance of the research. These expenses include applicable laboratory supplies.

*Example:*

To accomplish the work needed to create protein structures, we will be purchasing supplies for molecular biology (restriction enzymes, agarose gel, ligation and mutation enzymes, bacterial growth media, etc.) It is estimated that these supplies will cost $20,000 per year, with an escalation of 3% for each subsequent year. Estimates are based on prior experience.

2. *Publication Costs*: Many journals require a per-page or per-article publication cost, and these fees should be paid for through your grant. Other publication costs, including posters for meetings, should also be included.

*Example:*

We request the amount of $800 in Years 4 and 5 to publish the results of our study. We project that results will be verifiable and provide data that will produce information which will be disseminated through conferences and publication in journals. The amount of $800 per year will cover journal page costs, and production of posters for research meeting.

3. *Consultant Services:* Please make sure that consultants are well-justified and that you have also included a letter of support for all consultants, with a scope of work.

*Example:*

The PI will employ an outside source to provide evaluation and input into his work with nanostructures. William Griffith, Ph.D., is CEO of Nanolabs, and will devote 5 hours per year to the project. His rate is $200 per hour, for a yearly budget of $1,000

4. *Computer Services:* Make certain that the need for any computer-related expenses are justified by the project, and make sure that you remember to include the cost of any software necessary to the project.

*Example:*

The Computer Science Department maintains a full-service computing environment to support research and instruction. For hardware, computing facilities has available four Sun Enterprise-250 servers (1-2 gb of main memory each), 3 Sun 240s (2 GBs of memory each), a NetApp file server (1 Terabytes), 45 linux servers dedicated to course support, and about 400 workstations. The cost for each Computer Science faculty member is $620 and for each graduate research assistant is $310, for a total of $930 per year. For Dr. Goldwyn, basic computer services are included in the overhead of the School of Medicine.

5. *Subawards*: NSF requires subcontracts to submit separate budget, with budget justification. If you have a subcontractor, request these items and have them submit a detailed budget and justification on the right forms

*Example:*

A subcontract to Massachusetts Institute of Technology Computer Science and Artificial Intelligence Laboratory in the amount of $400,000 for four years as described in the proposal is included. The PI of this subcontract is John Jones.

6. *Other*: The “Other” category includes tuition expenses that will be covered by the grant.

*Example:*

Tuition expenses are requested for Dr. Smith’s graduate student, following the CU Denver University Computer Science department policy of supporting graduate students. Tuition is calculated at $35,019 for FY07\*, and expected to escalate at 3% per year. We request 15% of the tuition per year, or $5,250 for the first year, escalating at 3% in remaining years.

1. **Indirect Costs** (Facilities and Administrative Costs)

**USE TABLE AT BOTTOM OF BUDGET SPREADSHEET**

The Modified Total Direct Cost Base includes all direct costs minus equipment over $5,000 and tuition, plus the first $25,000 per subcontract.

*Example:*

Using DHHS negotiated rates, the modified total direct cost base of $251,085 was multiplied by the negotiated rate of 64% to obtain the indirect cost of $160,694 for the first rate. The same formula was applied in all subsequent years.