# **Budget Justification**

### Personnel

[XXX] months of summer salary per year for PI [XXX] are requested. One graduate student and one postdoc will be supported during the course of the project. The graduate student will focus [XXX] as well as [XXX]. The postdoc (partial effort at [XXX]% time) will be experienced with [XXX] and [XXX]. He/she will also assist the graduate student with his/her projects as needed.

An escalation factor of 3% has been assumed. Fringe benefits are charged at the current rates. The faculty benefits rate is 13.5% for the summer. A postdoctoral rate of 22% was used. The student academic year benefits rate is 2.5%, and the summer rate is 3%.

### Travel

Travel funds in the amount of $[XXX]k per year are requested for attending one to two technical conferences in the U.S.

### Supplies

At UC Santa Cruz, a total of $[XXX]k are budgeted annually to acquire supplies and materials for the project. These include [XXX] as well [XXX]. Also included are $[XXX] for [XXX]. In addition, $[XXX] for lab supplies and reagents for [XXX] are needed.

### Publication costs

Publication costs are budgeted in the amount of $[XXX] per year to cover publication in leading journals with mandatory publication fees (e.g. Optics Express, Nature Scientific Reports) and additional costs such as color figures.

### Other costs

A total of $[XXX] in other direct costs is requested over the course of the project.

Of these, $[XXX] are requested to cover student tuition and fees. $[XXX] cover maintenance fees (see below), and $[XXX] cover user fees.

$[XXX] per year are budgeted for time on the SEM/FIB instrument at UCSC. The scanning electron microscope will be needed to [XXX]. The focused ion beam capability of the instrument is required for [XXX]. The instrument operates as a user facility with an hourly recharge rate. The budgeted amount was calculated from expected usage at the current recharge rate. $[XXX] per year are budgeted to partially cover maintenance contracts for [XXX] software packages. The software packages are necessary for [XXX].

**Indirect costs**

Indirect costs for on-campus research at UCSC are charged at the currently negotiated rate of 54% of the modified total direct costs (MTDC). MTDC excludes equipment, student tuition/fees, and participant support costs.