

BUDGET JUSTIFICATION FOR THE RESEARCH PROGRAM

Funding is requested for the PI (Dr. Shardha Jogee) and two graduate students (Amanda Heiderman and Tim Weinzirl) in order to support their tuition, partial salary, and other items listed below. Note that existing funding for the PI will expire by 2009-2010 and has to date been used mainly to support another graduate student (Irina Marinova), as well as to provide partial support for a postdoc (F. Barazza) and minimal partial support for graduate students A. Heiderman and T. Weinzirl for the last two years.

Salary and fringe benefits for PI: Support for summer salary is requested for 0.5 months in the first two years and for 1.5 months in years 3, 4, and 5. Fringe benefits at the rate of 23%. UT indirect costs at the rate of 50% apply.

Salary, tuition, and fringe benefits for graduate students: 6 months salary support at 50% is requested for two graduate students for years 1 to 4. Fringe benefits at the rate of 32% and UT indirect costs at the rate of 50% apply. Half of tuition support for (Fall + Spring + Summer) is requested for each of the two graduate students for years 1 to 4. There are no indirect costs on tuition.

Travel: Yearly travel support (airfare, lodging, meals, transportation) is requested for one international conference for the PI, and one domestic trip for one graduate student. UT indirect costs at the rate of 50% apply.

Publication costs: We request publication charges for 40 pages per year in the Astrophysical Journal at the rate of \$110 per page. UT indirect costs at the rate of 50% apply.

BUDGET JUSTIFICATION FOR THE EPO PROGRAM

We are requesting a total of \$75,000 over a 5-year period to support expenses for one 3-day/2-night professional development workshop for teachers at the McDonald Observatory in Fort Davis, Texas. Expenses include salaries for EPO specialists to carry out the planning, organizing, conducting, evaluation, and reporting on teacher professional development workshops. Hemenway (EPO lead) and Wetzel Rs (education specialist) salaries will be cost shared by UT.

Kyle Fricke is an education specialist for McDonald Observatory in Austin, Texas. He will facilitate the workshop; be responsible for supplies, equipment, and arrangements for the workshop; produce the materials on DVD for the teachers to take back to their classrooms; and conduct the evaluation. Fricke is appointed 10% time

with fringe benefits at 30%. Merit increases are included at 5% in years 1 and 2 and 3% after that.

Third Coast Research and Evaluation will design and analyze the evaluation. Their fee is \$100 per hour. Doug Addison already provides the existing webmaster support for the teacher workshop website (\$70 per hour) and Mighty Data provides the existing Filemaker database to support the online teacher recruitment (\$80 per hour). The site is served by Verio (\$320 per mo.). Evaluation and web support are partially cost shared by UT. Teacher room and board are estimated at \$180 per teacher in years 1 and 2 and \$190 per teacher in future years. Teacher supplies are estimated at \$45 each in years 1 and 2 and \$46.67 in future years. Travel to McDonald for Fricke to facilitate the workshops is estimated \$500 per year. One trip to an AAS meeting to present the findings is estimated for one at \$1300 in year 3 is cost shared by UT.

The total project cost is \$154,848, with UT cost sharing \$83,198. For each \$1 that NSF contributes, UT leverages \$1.11. Based on past evaluations, we know that each secondary teacher interacts with about 100 students per year. By the end of this proposal, 7,500 students (75 teachers times 100 students) will have received the benefits of this workshop. The cost per person to NSF for providing this experience is \$2 (\$75,000/7500 students + 75 teachers).