**Sample BI #4**

10. BROADER IMPACT

The planned research will have broad impact on several levels. First, it offers a new theoretical model by which to understand this area. By testing the model’s hypothesized relations, our research has the potential to provide important new insights into the underlying causal processes and mediating mechanisms that influence these types of decisions. Because our measures will be carefully sequenced, our procedures will preclude reverse causal influences. Though factors not under investigation may impinge on participants’ decisions, these factors will be controlled through random assignment, thereby enabling us to attribute causality to the experimental manipulations. Second, our research has significant practical application value in terms of recommending reforms. Presently, the literature has focused on isolated incidences of action (XXX, 2010). Although this focus speaks to the diagnostic value of the individual cases studied, a theory-based approach can identify common causal processes and pathways underlying seemingly distinct processes. Thus, a particular strength of taking a theoretical approach to understanding this area is that it can identify whole classes of potentially problematic processes on the basis of their shared effects, and in this way more comprehensively inform reform efforts. Third, the proposed model offers a starting point for additional testing and revision, hopefully serving to organize and explain some of the extant work, and to promote future empirical and conceptual developments that can further advance understanding of these types of decisions. For example, if the planned research yields the expected results, the theoretical ideas could be expanded to include similar areas that we have elsewhere argued could produce similar effects (XXX, in press). Future research could also examine whether specific processes and vulnerabilities (XXX, 2007) exacerbate the effects we have proposed. Fourth, a critical component of our research plan is to advance theory while also having broad impact in terms of recruiting and training students from under-represented groups, enhancing students’ engagement in research, and disseminating the findings to a wide audience. We are committed to fostering the engagement of a diverse group of students and to help them build a foundation that will enable them to become independent researchers and professionals.

Toward this end, we will recruit minority, low income, and first generation college students from the McNair Scholars Program which is very active on campus. In addition, a very high proportion of university students are from rural farming communities and, thus, have also been traditionally under-represented in the discipline. We will recruit these students from classes and the academic advising office. Graduate students from diverse backgrounds will be recruited through the Council for Opportunity in Education and minority fairs that are attended by university staff. We will involve our students in all phases of the research up through publication. We all have track records of involving students at this level. Our students have co-authored articles with us, most appearing in premier outlets. Our students have benefited from these experiences by receiving scholarships, gaining entrance into graduate programs (and obtaining tenure-track academic jobs). We will disseminate our findings to outlets that have high impact and make scientifically-based research findings available to the public. We will also disseminate our findings to non-academic audiences, such as a list of non-academic organizations and government agencies.

**Budget Justification**

1. **Senior Personnel: $ 96,436**

Funds are requested to support PI Dr. Jackson for 3 months each year of the project. The salary for Year 1 is $10,400 /month.

1. **Other Personnel: $ 373,063**

Post-doctoral Scholar ($ 150,218)

Funds are requested to support one postdoctoral scholar for 12 months per year. The salary for Year 1 is $4,050 /month.

Graduate Students ($ 163,200)

Funds are requested for two graduate students for 12 months per year. Per University policy, GRA effort cannot exceed 20 hours per week. The graduate stipend for Year 1 is $ 2,200/month.

Undergraduate Students ($ 22,254)

Funds are requested to support two undergraduate student hourly employees for a total of 40 hours per month and nine months per year. The salary for Year 1 is $ 400/month.

Professional & Scientific ($ 37,391)

Funding is requested to support one full-time lab assistant for 12 months at 33.3% effort. The salary for Year 1 is $ 3,024/month.

Iowa State University charges salaries to sponsored projects on a percentage of effort basis as permitted by 2 CFR 200 Subpart E, Cost Principles for Educational Institutions. 2 CFR 200 is incorporated in the FAR in section 31.3. Iowa State University defines year as institutional fiscal year, July 1 – June 30. Labor costs for post docs and graduate students are based on projected monthly salaries paid by the participating academic departments at ISU. Wages are based on hourly rates typically paid to upper-level undergraduate research assistants in the College of Engineering at ISU.

A 3% increase is included in each subsequent fiscal year.

**C. Fringe Benefits: $ 98,895**

At Iowa State University, fringe benefits are specifically identified to each employee and are charged individually as direct costs. These costs are budgeted as a percentage of an individual’s salary based on his/her labor category. Current rates for applicable labor categories are listed below.

Faculty 27.7%

Professional 34.5%

Merit 43.5%

Graduate Students 7.8%

Postdoctoral Associate 33.0%

Undergraduate Students 0.6%

Non-student Hourly 17.0%

1. **Equipment: $0**

No equipment is being requested by Iowa State University.

1. **Travel: $ 16,500**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Domestic Travel** | | | | | | | | | | | | |
|  |  |  |  | **Lodging** | | | **Meals** | | |  |  |  |
| **Year** | **Purpose & Destination** | **# of People** | **Airfare/ Person** | **# Nights** | **Rate per Night** | ***Lodging Total*** | **# Meal Days** | **Meal Cost per Day** | ***Meal Total*** | **Ground Transpor-tation** | **Registration Per Person** | **TOTAL** |
| 1 | Conference | 1 | $581 | 3 | $200 | *$600* | 4 | $40 | *$160* | $186 | $500 | $2,027 |
| 1 | Cornell Lab | 3 | $446 | 3 | $122 | *$336* | 4 | $40 | *$160* | $186 | $0 | $3,473 |
|  |  |  |  |  |  |  |  |  |  |  | **Year 1 Total** | **$5,500** |
| 2 | Conference | 1 | $581 | 3 | $200 | *$600* | 4 | $40 | *$160* | $186 | $500 | $2,027 |
| 2 | Cornell Lab | 3 | $446 | 3 | $122 | *$366* | 4 | $40 | *$160* | $186 | $0 | $3,473 |
|  |  |  |  |  |  |  |  |  |  |  | **Year 2 Total** | **$5,500** |
| 3 | Conference | 1 | $581 | 3 | $200 | *$600* | 4 | $40 | *$160* | $186 | $500 | $2,027 |
| 3 | Cornell Lab | 3 | $446 | 3 | $122 | *$366* | 4 | $40 | *$160* | $186 | $0 | $3,473 |
|  |  |  |  |  |  |  |  |  |  |  | **Year 3 Total** | **$5,500** |

Funds are requested for Dr. Jackson to attend one conference per year (location to be determined) where he will share the results of his research.

Additional funds are requested for Dr. Jackson and two others (Postdoc, Graduate Students, or Lab Assistant) to visit the Cornell laboratory to further collaboration and research efforts.

**F. Participant Support Costs: $0**

**G. Other Direct Costs: $ 391,812**

Materials and Supplies ($ 36,000)

Funds are requested at $12,000 per year for the purchase of research and laboratory supplies that are necessary and essential for completion of tasks as proposed. These include guide RNAs, DNA extraction reagents, real time and regular PCR reagents, and consumable lab supplies such as tubes, pipet tips, injecting needles, etc.

Subrecipients ($ 230,792)

We have one subcontractor, Cornell University. A detailed budget and budget justification is included in the proposal.

Tuition ($ 80,020)

Per University policy, tuition remission is being requested for each graduate student, commensurate with his or her time on the project.

**H. Indirect Costs: $ 366,222**

For sponsored research at ISU, indirect rates are applied to Modified Total Direct Costs

(MTDC). MTDC consists of all salaries and wages, fringe benefits, materials, supplies, services, travel, and subgrant or subcontracts up to the first $25,000 of each subgrant or subcontract

(regardless of the period covered by the sub grant or subcontract). MTDC excludes equipment, capital expenditures, charges for patient care, student tuition remission, rental costs of off-site facilities, scholarships and fellowships, as well as the portion of each subgrant and subcontract in excess of $25,000. Current rates are provided below. These rates were approved by the Department of Health and Human Services (effective 07/01/2016 – 06/30/2020).

On-campus – Organized Research 53.0%

On-campus – Instruction 53.0%

On-campus – Other Sponsored Activities 33.0%

Off-campus 26.0%

Because the majority of work on this project (> 50%) will be performed on ISU’s campus, the on-campus Organized Research rate was used to calculate indirect costs.