**Year 1 Budget Justification**

**A. \*Senior Personnel: ($44,014)**

Co-PI Dr. Annie Smartlock will be co-leading project objectives. Dr. Smartlock will devote up to 1-month summer effort to this project each year. She will be responsible for all aspects of the project, including design and execution of experiments, write-up of results.

PI Dr. Sandra Element requests 2-monthf of academic support each year for her efforts on the project objectives.

PI Dr. Sam Smith requests 1-month summer support each year for his efforts on the project objectives.

PI Dr. Katie Keller requests .50 summer month support each year for her efforts working on the project objectives.

**B. \*\*Other Personnel: ($119,567)**

***B.1. Post-Docs* ($66,667)** Funds are being requested to support 2 post-docs to assist Drs. Annie Smartlock and Sandra Element on project objectives required to achieve the proposed scope of work.

***B.3. Graduate Students ($50,400)*** – A total of 3 graduate research students will be supported at a rate of ~$24,000 per year. The graduate students will provide a substantial component to the hands‐on research required to achieve the milestones in this proposal. Their research assignments will be part of their theses/dissertations.

***B.4. Undergraduate Students ($2,500)*** – One undergraduate student will participate in faculty-mentored CREW research projects during academic year and summer. Their pay is estimated at $10 per hour.

**C. Fringe Benefits: ($47,709)**

[Subrecipient’s] rates for estimating fringe benefit rates are: 25% for faculty summer salary; 46% for 12-month professionals and post-docs, 3% for students during academic year; 10% for students during summer. Fringe benefits are charged as actual costs.

*\*Senior personnel or Non-Senior Personnel Faculty may be paid in part as extra compensation during academic year. Additional effort by the named and other faculty may be included in cost share.*  
*\*\*Salaries paid in continuing years may receive up to a 3% cost of living allowance.*

**D. Equipment: ($15,000)** Funds are being requested in Year 1 for a [specified item].

**F. Participant support: ($500)** Funds are requested for participant [activity]. Cost per participant, $50. Participant support is excluded from F&A calculation.

**E. Travel: ($10,500)**

*Domestic:* Travel funds are requested for research travel to field sites and reverse, domestic travel for faculty, graduate student and undergraduate attendance at meetings. Team members will be encouraged to attend national meetings to develop collaborations and gain new knowledge that will enhance grant submissions. Additional funds will cover travel to regional partners, national meetings, and travel across the state to meet and encourage researchers from affiliated institutions to collaborate. Travel is also requested for workforce development activities, outreach activities such as a community lecture series that bring the project science to rural communities across the state, and for advisory board members to attend on site meetings and state conferences.

**G. Other Direct Costs: ($45,784)**

***G.1. Materials and Supplies ($23,834) –*** Fundsare requested to cover expenses for field and laboratory research supplies. Also included are funds for minor equipment items (<$5,000 each), such as [list items].

***G.3. Consultant Services ($13,250) includes contracted services***

Contracted services and consultants provide lab support, analytical services not available on campus, machining, and training for faculty and students on commercialization and opportunity assessment.

***G6. Other: ($8,700)***

*G.6.1 Graduate Student Tuition ($8,700)*– Graduate students’ tuition is estimated at $5,800 per student each year (Resident tuition rate). This amount is excluded from the base for F&A.

**I. Indirect Costs: ($106,656)**

F&A amounts are calculated at [Subrecipient’s] federally negotiated rate of 41.2%. Facility and Administrative costs are calculated on the modified total direct cost base (MTDC), which excludes participant support, tuition, equipment, and subcontract amounts above $25,000.

**TOTAL AMOUNT OF THIS REQUEST: ($389,730)**