

Strategic University Research Partnership Proposal for FY2010
Due Date: October 2, 2010, by 4 PM PST

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| 1. Title of Proposal | |
| 2. JPL Principal Investigator Name – Section | 3. Co-Investigator(s) (University and JPL Co-Is) Name – Affiliation Email |
| 4. Total Budget Request for FY10 (check one box) New Proposal [] Renewal Proposal [] Budget Request: | |
| 5. Student Participants Name – Affiliation Email | |
| 6. Topic Area— Place a “1” next to your primary area and a “2” next to your secondary (optional) area. Hint: Delete unused topical areas to recoup space. | |
| <p>1. Next Generation Leaders and Innovators</p> <input type="checkbox"/> Education and training <input type="checkbox"/> Student career path development | <p>In Situ Planetary Exploration Systems</p> <input type="checkbox"/> EDL/precision landing and hazard avoidance <input type="checkbox"/> Atmospheric, surface and subsurface mobility <input type="checkbox"/> Sample acquisition and handling <input type="checkbox"/> Autonomous orbiting sample retrieval, capture and return <input type="checkbox"/> Planetary protection |
| <p>2. Solar System Science</p> <input type="checkbox"/> Planetary Atmospheres and Geology <input type="checkbox"/> Solar System characteristics and origin of life <input type="checkbox"/> Small solar systems bodies <input type="checkbox"/> Lunar science | <p>Survivable Systems for Extreme Environments</p> <input type="checkbox"/> Survival in high-radiation environments <input type="checkbox"/> Survival in particulate environments <input type="checkbox"/> Electronics and mechanical systems for extreme temperatures and pressure <input type="checkbox"/> Reliability systems for extended lifetimes <input type="checkbox"/> Space radiation modeling |
| <p>Earth Science</p> <input type="checkbox"/> Atmospheric composition and dynamics <input type="checkbox"/> Land and solid earth processes, water and carbon cycles <input type="checkbox"/> Ocean and ice <input type="checkbox"/> Earth analogs to planets | <p>Deep Space Navigation</p> <input type="checkbox"/> Mission Design and Navigation Methods <input type="checkbox"/> Precision Tracking and Guidance <input type="checkbox"/> On-Board Autonomous Navigation |
| <p>Global Change and Energy</p> <input type="checkbox"/> Climate Science <input type="checkbox"/> Energy production, storage, and integration | <p>Precision Formation Flying</p> <input type="checkbox"/> Distributed spacecraft architecture <input type="checkbox"/> Wireless Data Transfer <input type="checkbox"/> Formation sensing and control |
| <p>Astronomy and Fundamental Physics</p> <input type="checkbox"/> Origin, evolution, and structure of the universe <input type="checkbox"/> Gravitational astrophysics and fundamental physics <input type="checkbox"/> Extra-solar planets and star and planetary formation <input type="checkbox"/> Solar and Space Physics | <p>Deep Space Communications</p> <input type="checkbox"/> High-rate communication <input type="checkbox"/> Optical communication <input type="checkbox"/> Autonomous and cognitive radios <input type="checkbox"/> Flight transponders <input type="checkbox"/> DSN arraying |
| <p>Large Aperture Systems</p> <input type="checkbox"/> Lightweight Apertures <input type="checkbox"/> Lightweight precision controlled structures <input type="checkbox"/> Integrated low temperature thermal control <input type="checkbox"/> Advanced metrology <input type="checkbox"/> Wavefront Sensing and Control | <p>Mission System Software and Avionics</p> <input type="checkbox"/> Spaceborne Computing <input type="checkbox"/> Mission system software <input type="checkbox"/> Autonomous Operations <input type="checkbox"/> Software Reliability |
| <p>Detector and Instrument Systems</p> <input type="checkbox"/> Detector and focal plane systems <input type="checkbox"/> Active remote sensing <input type="checkbox"/> Passive remote sensing | <p>Lifecycle Integrated Modeling and Simulation</p> |

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|---|--|
| <input type="checkbox"/> In-situ Sensing <input type="checkbox"/> Detector/Instrument Cooling Advanced Propulsion and Power <input type="checkbox"/> Advanced Electric propulsion <input type="checkbox"/> Advanced Chemical propulsion <input type="checkbox"/> Precision micro/nano propulsion <input type="checkbox"/> Power sources for deep space missions <input type="checkbox"/> Energy sources for deep space missions | <input type="checkbox"/> Trade space exploration <input type="checkbox"/> Coupled/ Integrated Physics-Based Modeling <input type="checkbox"/> Model Validation <input type="checkbox"/> Model Integration Other <input type="checkbox"/> Other |
| <p>7. Objectives— State clearly and concisely the objectives of your work and why it is important technically and programmatically.</p> | |
| <p>8. Technical Approach— Describe your plan to achieve your objectives. Provide specific tasks, milestones, and responsibilities.</p> | |
| <p>9. Renewal Proposals Only— Describe the accomplishments of the predecessor award. If renewal is desired for continuity of graduate student research, please so indicate.</p> | |
| <p>10. Innovative Features— Describe new concepts that are being applied to produce a evolutionary or revolutionary advance.</p> | |
| <p>11. Team Strengths— Describe the strengths each member of the team brings to the proposed effort.</p> | |
| <p>12. Exchange of personnel— Describe any plans to have work performed at JPL by university personnel or at the university by JPL personnel. Commitment by the appropriate JPL and/or university organization to host the proposed personal exchange must be obtained and so stated in this section. For Research Initiatives, please indicate whether a linked student internship is proposed.</p> | |
| <p>13. Impact of Results on JPL Missions and Programs— Describe how this work maps into the strategic topical areas.</p> | |

14. Plans for Follow-on Funding— Provide a realistic assessment of future funding potential. Discuss how this proposal may enhance the probability of such funding.

15. Budget— Please complete the budget sheet below. Contact your Section Administrator or Business Administrator Manager for FY10 rates and for assistance in filling out the form.

16. Partner contract administrator contact information— Provide name of contract administrator, address, phone number, and email.

17. JPL Principal Investigator Signature

Name: _____ Org: _____
Signature: _____ Date: _____

18. JPL PI Division Manager Signature

Name: _____ Org: _____
Signature: _____ Date: _____

19. University Co-Investigator Signature

Name: _____
Signature: _____ Date: _____

20. University Representative with Signature Authority

Name: _____
Title: _____
Signature: _____ Date: _____

Figures, Graphics, Tables, etc.

(Please do not use "text-wrapping" when incorporating graphics at the end of the report.)

SURP Budget Sheet

| Category | At JPL | At External Institution(s) |
|---|--------|----------------------------|
| DIRECT COST | | |
| 1. Salaries — (Itemize) (Only “itemize” the person names or job classifications and the number of hours for each. You can show one total \$ salary figure for labor.) <i>Itemize here</i> | | |
| 2. Labor Fringe Rates — <i>Employee Benefits</i> | | |
| 3. Cat A Labor — (Itemize) (Only “itemize” the person names or job classifications and the number of hours for each. You can show one total \$ figure for labor.) | | |
| 4. Procurements—Equipment, Materials and Supplies (Itemize). JPL - Do not list the contracts for outside collaborators. This total is on line #12 on the external collaborator column. | | |
| 5. Procurements— Subcontracts (PS – contracts other than with university) a. Student Internship \$ _____ see 2010 Call Guidelines b. Other contracts (itemize) \$ _____ | | |
| 6. Services — (Itemize) (JPL be sure to include in-house services at JPL) | | |
| 7. Domestic Travel — <i>Itemize where and why</i> | | |
| 8. Other —(Itemize) (Chargebacks, etc.) | | |
| 9. Total Direct Costs (total of dollars 1 through 8) | | |
| 10. ALLOCATED DIRECT COSTS (ADC) | | |
| <p><i>JPL see your Section Administrator or Business Administration Manager for current rates. ADC costs are calculated on JPL’s total direct costs (Item #9) and the external institution(s) budget (item #12).</i></p> <p>ADC at JPL consisting of:</p> a. Labor ADC \$ _____ b. RSA Contract ADC (university)* \$ _____ c. Contract ADC (internship) \$ _____ d. Other Contracts ADC \$ _____ e. Purchase Orders ADC \$ _____ f. General ADC \$ _____ Enter total on Item #10 \$ _____ <p><i>*Important— If hardware or software deliveries are part of proposed effort, then CREI Contract ADC must be applied.</i></p> | | |
| 11. Overhead— external Institution <i>Itemize as appropriate here and enter total</i> | | |
| 12. Individual Budgets <i>JPL add Item #9 and Item #10 for total JPL budget External Institution add Item #9 and Item #11</i> | \$ | |
| 13. Total Combined Budget** <i>JPL Budget plus External Institution Budget</i> | | |

**If a student summer internship is proposed, you may exceed the \$100,000 cap for a Research Initiative by the cost of the internship, including ADC (sum of Item 5a and 10c).