

April 27, 2018
Science Mission Directorate Policy

Student Collaboration

SMD Policy Document SPD-31

**Recommended by SMD Science Management Council,
Approved by SMD Associate Administrator**

Responsible SMD Official: Deputy Associate Administrator for Research

VERSION HISTORY

Original, SPD-31

I. DEFINITION

Student Collaborations (SCs) are defined as hands-on opportunities across the life cycle of flight or instrument projects (design, build, test, and operations) performed by current or future undergraduate or graduate students, including advanced high schoolers.

II. POLICY

- a) This SPD is applicable to all SMD Announcements of Opportunity (AOs). It does not preclude other SMD opportunities from supporting SCs when funding is available. AOs shall specify:
 - (i) Whether proposing SC is allowed.
 - (ii) Criteria and evaluation processes used to assess the proposed SC: For a one-step AO, this evaluation would occur with the entire evaluation. For a two-step AO, these evaluations may be split between the Step-1 proposal evaluation (*e.g.*, separable from prime mission or mission requirements) and the Step-2 concept study report evaluation (*e.g.*, merit of the SC).
 - (iii) Criteria and evaluation processes of funded SCs (see Section IV).
- b) The presence or absence of SC in a mission proposal shall not enter into the science merit, science implementation merit, or technical, management and cost evaluations of a mission proposal. If a proposed mission is selected, NASA retains the option to fund or not to fund the proposed SC in full or in part.
- c) Principal investigators (PIs) shall have wide latitude to create SC opportunities that offer authentic, hands-on experiences within the mission life-cycle.
- d) SCs shall have science or engineering merit that connects to the proposed mission's implementation.
- e) SCs shall not be required for the success of the mission, *i.e.*, they are descopable and/or allowed to fail without negative impact on the success of the mission.

- f) Mentoring shall be an essential component of SC and a flexible approach is appropriate. The mentoring approach shall be documented and a mentoring agreement shall be signed by the student(s), mentor, and PI. Mentors can include experienced undergraduates, graduate students, postdocs, experienced technicians, etc. NASA expects that funds will be reserved for supporting SC mentors.
- g) SCs shall include a description of how the effort will be evaluated to be aligned with the students' career development.
- h) Risk management strategies for SCs shall accept a reasonable level of risk, recognizing that technical objectives may not be guaranteed when innovative approaches are encouraged.
- i) Budgets shall be structured to encourage SC proposals and protect SC funding once established (see Section III).

III. RESOURCES

SCs, up to a "SC incentive" (typically 1% of the mission cost cap), shall not count against the mission cost cap but shall be funded by an *additional* set of resources awarded by SMD as determined by the responsible SMD Official. If selected, funding for SCs may be in full or in part.

Each AO shall specify policies regarding the allowable cost of a proposed SC, including but not limited to:

- a) The responsible SMD program may choose to set aside specific funding for a SC incentive with no minimum or maximum thresholds.
- b) Proposers shall be asked to revise the SC if estimated costs exceed the SC incentive or shall specify alternative funding sources for the difference (typically coming from the PI-managed budget).
- c) SC resources shall not be applied to project cost overruns.
- d) Individuals (mentors, students, supervisors) who are funded by SMD to participate in a SC shall be compensated when appropriate, and the cost of that compensation shall be included in the SC budget.

IV. EVALUATION

Evaluation of proposed and funded SCs shall include criteria that measures the SC effort against the mission objectives to ensure compatibility between the SC and the student's career development path. SMD AO managers are responsible for pre-award SC evaluation.

- a) Evaluation of the overall value of a proposed SC shall balance scientific/technical merit and risk of technical failure against potential student development impacts.

- b) Undergraduate SC shall be prioritized during evaluation because it is at this critical junction that individuals, including from groups traditionally underrepresented or underserved in STEM, make decisions to pursue and persist in degrees that will provide the skills required by the future space science workforce.
- c) The three minimum SC review criteria for student development impact shall be:
- *Scope, Realism/Appropriateness* (Student level and the project's SC research objectives are both clearly defined. SC mentors and supervisors are identified and have clear lines of responsibilities. The proposal includes a description of what constitutes, to the proposer, a successful SC effort.)
 - *Diversity* (SC participant recruitment and retention (R&R) practices or proposed inclusion strategies are described, including proposed R&R likely to reach individuals from groups underrepresented in STEM.)
 - *Evaluation* (The SC includes evaluation of the student development impact. The SC has proposed evaluation methodology based on techniques appropriate to the SC activities proposed. The evaluative processes document intended outcomes, outputs and use metrics to demonstrate progress or explain the lack of achievement by the SC component.)

V. REPORTING

SMD AO managers are responsible for post-award reporting.

- a) The PI shall include SC as a part of routine project reports.
- b) The PI shall report SC evaluation results, including student perspectives on the value of the SC experience.

APPROVAL



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5/15/18

Date