



2019 Astrophysics Small Explorer/ Mission of Opportunity Phase A Concept Study Kickoff Meeting

Welcome and Congratulations!

Please mute except to speak – prevent feedback!

Turning your camera off might reduce latency.

Use "chat" to ask questions during a presentation,
or "raise hand" during a question period.



2019 SMEX/MO Selected Investigations

Explorer Missions (SMEX)

- ESCAPE - Extreme-ultraviolet Stellar Characterization for Atmospheric Physics and Evolution – Kevin France, University of Colorado at Boulder
- COSI - Compton Spectrometer and Imager –John Tomsick, University of California, Berkeley

Mission of Opportunity (MO)

- Gravitational-wave Ultraviolet Counterpart Imager, a SmallSat rideshare mission – Stephen (Brad) Cenko at NASA's Goddard Space Flight Center in Greenbelt, MD
- LEAP - A Large Area burst Polarimeter on the International Space Station – Mark McConnell, University of New Hampshire in Durham.



Phase A Overview

- Full Mission (SMEX) selected teams will conduct 9-month Phase A Concept Studies, funded up to \$2M (real year dollars).
- Missions of Opportunity (MO) selected teams will conduct 9-month Phase A Concept Studies, funded up to \$0.5M (real year dollars)
- Concept Study Reports (CSRs) will be due **December 17, 2020**.
- NASA will conduct detailed reviews of the Concept Study Reports to evaluate the implementation details of the selected investigations, including any modifications of the scientific objectives, and the implementation including all technical and management factors.
- As a result of this Phase A evaluation, NASA expects to confirm one SMEX investigation and one or two MO investigations for Phase B.



Management and Constraints

- This kickoff meeting will discuss instructions for the Phase A Concept Study.
- Phase A Study deliverables:
 - **Concept Study Report** must provide sufficient implementation detail and planning to allow NASA to judge probability of mission success; and
 - **Complete cost or pricing data** for Phase B shall be included with the CSR for each organization (Appendix L.4 specifies that this may be delayed till the site visit)
- Each mission's Concept Study Report must conclude with a commitment by the PI for the cost, schedule, and scientific performance of the investigation.
- NASA cannot guarantee that the proposed funding profile can be accommodated within the Explorer Program's budget. A funding profile for the selected mission will be negotiated during Phase B.



Schedule (1)

- The 9-month Phase A clock started on **16 March 2020**.
- No PI Forum this year (we expect everyone to be very busy once lab work can re-start). SOMA hosts presentation slides from PI Forum 7 for the 2016 Astro and Helio Explorers and PI Forum 8 (Helio MOs) at <https://soma.larc.nasa.gov/pi-masters-forums/>
- Concept Study Reports (CSRs) will be due on **17 December 2020**
- Draft conflicted-parties lists are due 3 months ahead, on **September 17**: your team can change during Phase A.
- Linda Sparke will be the overall chair of the evaluation team and will lead the science evaluation.
- Tony Tyler and Odilyn Luck (SOMA) will lead the TMC evaluation and will coordinate site visits.

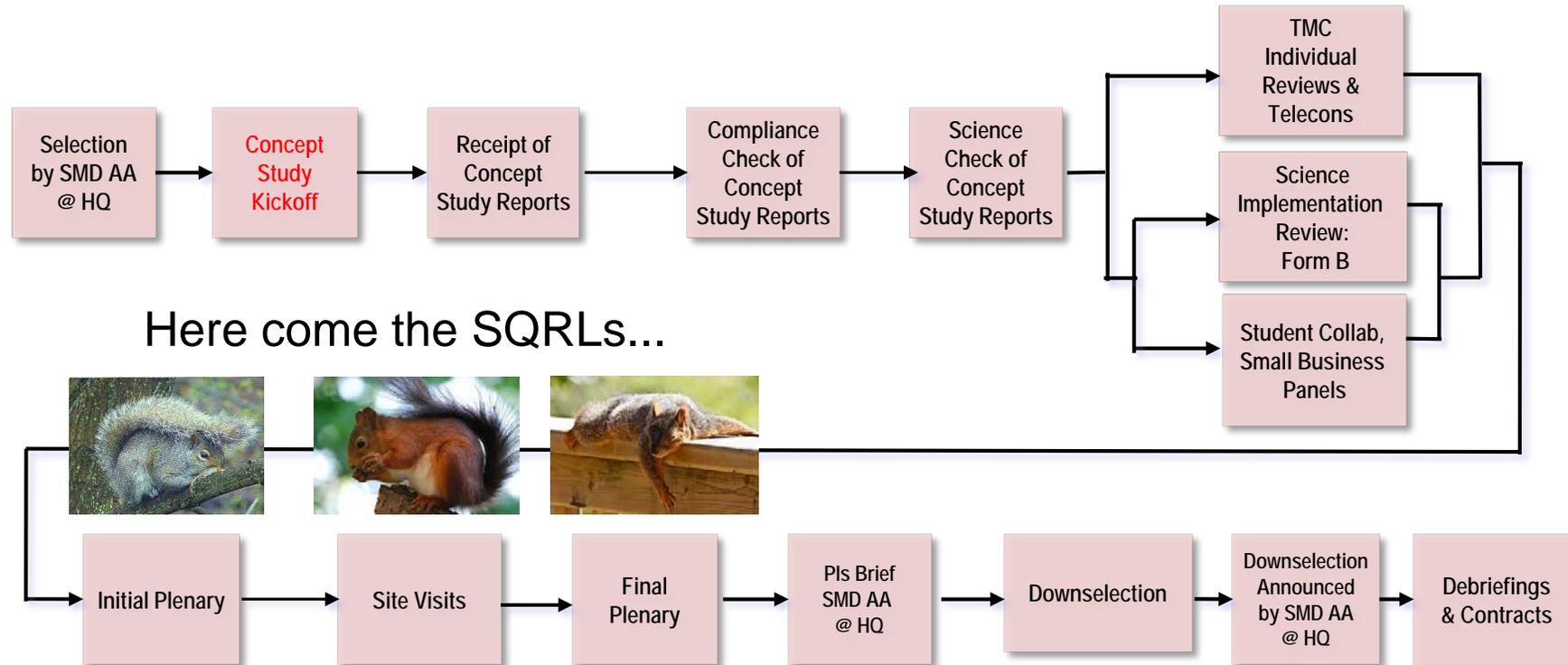


Schedule (2)

- We are monitoring the COVID-19 situation closely at HQ, and we receive guidance from NASA senior leadership.
- At this stage we aim to stay on schedule for the CSR due date of December 17, 2020.
- It is currently too early to know how long labs will have to remain closed for pandemic mitigation, and whether a delay will be required to achieve the necessary level of formulation work required for an accurate evaluation of each investigation.
- We plan to re-evaluate the situation in mid-June, three months into Phase A.
- We would ask each team to tell us by **Friday June 12** if they have encountered significant difficulty due to COVID-19, and if so, to describe the activities that have been halted and those that have proceeded less efficiently.
- Health and safety is always the top priority.



What Follows Selection?



SQRL = Significant weaknesses, Questions and Requests for information List

These are sent ahead of the site visit, after the site visit, and (maybe) from the final plenary



Concept Study Guidelines

- Astrophysics Explorer 2019 Draft Guidelines And Criteria For The Phase A Concept Study may be found at the Explorer Program Acquisition Website
 - <https://explorers.larc.nasa.gov/2019APSMEX/SMEX/programlibrary.html> and <https://explorers.larc.nasa.gov/2019APSMEX/MO/programlibrary.html> (the links on these two pages should point to the same Guidelines and Criteria document)
 - These Draft Guidelines are based on the “Standard CSR Guidelines,” so changes for the final version are expected to be minimal.
- Please send comments and questions to Linda Sparke by COB on Thursday April 30.
- The Q&A page on the website <https://explorers.larc.nasa.gov/2019APSMEX/> will track answers to questions and note changes to documents in the Program Libraries



Phase A Contract

- Following the Step-1 selection, the Explorers Program Office will issue a **Request for Proposals** to each CSR team for the **Phase A contract**, plus a priced option for a 3-month **Bridge Phase**, to be exercised only when that investigation is down-selected to proceed into Phase B. The Bridge Phase provides program continuity while negotiations are completed to modify the contract to include the remainder of Phase B through KDP-C.
- **The Bridge Phase for both SMEX and MO** will cover:
 - project work planned for the first 3 months of phase B;
 - participation in the project kickoff meeting;
 - interactions with the Explorers Program Office, including work to award the balance of Phase B funding.
- The Explorers Program Office will then negotiate a priced option for this Bridge Phase into the Phase A contract.



Evaluation Criteria (1)

- All three criteria from the AO or PEA will be used:
 - Scientific Merit
 - Science Implementation Merit
 - Feasibility including Cost Risk
- The Step-2 evaluators will not have access to the Step-1 proposals, nor to the Step-1 reviews.
- Weighting between criteria will be different from Step 1, some individual factors are tweaked, some factors are added
- The TMC review (Criterion C) will be weighted most heavily:
 - Scientific Merit of the investigation: medium weighting
 - Scientific Implementation Merit and Feasibility of the investigation: medium weighting
 - Feasibility of Mission Implementation, including Cost Risk: largest weighting
 - Quality of plans for Small (Disadvantaged) Business Sub-contracting, and for an optional Student Collaboration, if proposed: approximately 5%



Scientific Merit Evaluation: Criterion A

- Step 1 selections were primarily based on *science balanced by feasibility*. Unless the science has changed, the Step-2 Science evaluation *will emphasize implementation*.
 - Unless directed, or Concept Study results demand it, objectives of Baseline and Threshold Science Missions should not change.
 - Science section from Step 1 proposal **must** be repeated in the CSR.
 - Any and all changes must be highlighted (change bars).
 - If there are no **significant** changes to the **science objectives** or other aspects of the **proposed Baseline and Threshold Science Missions**, the Form A rating remains unchanged from Step-1.



Science Implementation Evaluation: Criterion B

- All of the factors defined in Section 7.2.3 of the MIDEX AO or the SALMON-2 AO apply to the Concept Study and will be re-evaluated from the data supplied in the CSR and at the site visit.
 - Factor additions:
 - Details of data collection plans added to Factor B-1
 - Added instrument design to Factor B-2
 - Factor B-6 on Science Enhancement Options can contribute to rating
 - New Factor B-7: Likelihood of scientific success (same as Factor A-3 at Step 1).
 - New Factor B-8: Maturity of proposed Level 1 science requirements and Level 2 project requirements (see Program Library "Documents referenced by the CSR Guidelines")
 - Any proposed Student Collaboration is evaluated by a separate panel
 - The science panel will provide comments to NASA on how far the proposed investigation provides career development opportunities to train the next generation of science leaders. These comments may be considered during down-selection.
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Evaluation Criteria (2)

Feasibility Evaluation: Criterion C – to be covered in TMC presentation

Plans for Small (Disadvantaged) Business sub-contracting, and any proposed Student Collaboration – will be assessed separately

Step-2 CSR evaluation is different from Step-1 proposal evaluation

At Step-1, evaluators give the proposing team the "benefit of the doubt"; this is no longer true at Step-2.

At Step-2, proposing teams may give free-form answers to significant weaknesses, questions and requests for information from the review panels. Information from answers to reviewer questions and from the site visits will be considered along with the content of the Concept Study Reports.



Competition Conditions

- **“Blackout” after the Kickoff Meeting.** Communications between Study Teams and the various NASA program offices will be focused to ensure fairness
 - Communications after this meeting will be controlled.
 - Technical and expert advice should be posed directly to identified Points of Contact (POC’s).
 - All programmatic questions, including questions of policy, questions of interpretation, and questions of clarification, should come to HQ/Linda Sparke
 - Generic versions of questions and answers will be posted as “Questions and Answers” available from the Explorer Program Acquisition website
- But, NASA does not want to restrict these communications
 - If the process outlined by Program Office proves onerous, we will reassess it



Useful Information on the SOMA Website

- **International Agreements:** see the presentation from 2016 MIDEX/MO kickoff. NASA will not negotiate International Agreements until Phase B.
- From **PI Masters Forum 8**, presentation on Level 1 and Level 2 requirements. A low-graphics version of this presentation has been added to the 2019 SMEX/MO Program Library.
- From **PI Masters Forum 7**, these slides give a good account of what the presenters said:
 - NICER PI Keith Gendreau (especially the last 5 slides, on how he recruited and managed his team)
 - Kepler Project Manager Charlie Sobeck ("things *will* go wrong...": how the Kepler team prepared in anticipation of problems)
- The **SOMA main page** at <https://soma.larc.nasa.gov> links to all the presentations from PI Masters Forum 7 and 8.



QUESTIONS?