Foundation Models in Astrobiology Workshop Agenda
Feb 24 - 26, 2025

Overarching goal: To assess the potential of Foundation Models for astrobiology and to identify and investigate uses, model approaches, and what is needed for next steps, to support NASA and community decision-making and priorities.

Coffee/drinks and light snacks provided throughout. Group lunches through Specialty's.

Day 1 Monday Feb 24: Theme - *Big Picture*

9am: Arrive at SETI and check-in
     OC welcome

9:20am: Around the room introductions and icebreaker activities

10am: RCN presentations and discussions

11:30am: Bill Diamond (SETI) welcome speech

12pm: Lunch

1pm: Discussion of workshop goals, and identifying scientific focus areas of promise for FM development. Create list of fields and focus areas for FM's.

1:30pm: Breakout into groups aligned with areas from the list. Each group creates presentation to share with entire workshop:
- What would a given area's FM be used for – are there outstanding science questions suited to these models?
- What would the data for the FM be, and does the right data really exist?
- How could an FM really advance this area - is it necessary?
- What is the likely architecture and potential scale of this FM?
- If work on the FM began tomorrow what would that work be?

2:15pm: Break

2:30pm: Regroup for breakout teams to report findings and open discussion.

4pm: End Work – light reception until **5:30pm**

Day 2 Tuesday Feb 25: Theme - *Deep Dive*

9am: Start - Examine priorities for work that have emerged.

9:15am: Decide on breakout groupings (same or revised) to dig deeper into Day 1 outcomes (i.e. specific FMs, use cases, priorities).

9.30am: Breakout groups perform deeper dives to flesh out the pathway to FMs for specific areas, determine data needs, and what a roadmap to these models would look like and anticipated use cases. Discuss multi-modality and scale of FM options.

- What would be required to build a specific FM?
- Can we outline the architecture and scale of potential FMs in more detail - if not, what is needed to do so?
- What is the level of challenge for utilizing or acquiring the necessary data for a given FM?
- What could be gained with multi-modal models? Is there a 'universal' FM for astrobiology?
- Where are the obvious hurdles or roadblocks to any of the above, and how might they be mitigated?

10.45am: Break

11am: Continue deep dive breakouts

11:45am: Group photo

12pm: Lunch

1pm: Continue deep dive breakouts

2:30pm: Break

2:45pm: Regroup for findings and discussions. Create slide deck summarizing findings at this point, to be used for debrief on Day 3 and as part of the planning process for whitepapers. OC will guide a recap of Day 3 tasks to steer towards those.

5pm: End Work

7pm: Optional group dinner at Don Giovanni, Mountain View

Day 3 Wednesday Feb 26: Theme - *Writing & Debriefs*

9am: Check in and discussion of overall tasks for the day

9:15am: Share slide sets from Day 2. Group discussion of whitepaper(s)
      Brainstorm on contents
      Assign tasks, co-leads, and establish schedule
      Begin writing

10:45am: Break

11am: Call with NASA HQ/Astrobiology leadership to debrief on workshop activities and Q&A

12pm: Lunch

1pm: Recap HQ discussions and discuss if there is a need to pivot on anything.

1:15pm: Resume writing. Create bulletized summaries of content for whitepaper(s), and begin to flesh out content.

2.30pm: Break and check-in

2.45pm: Continue as needed

5pm: Hard close.