Update from NASA Astrobiology Program

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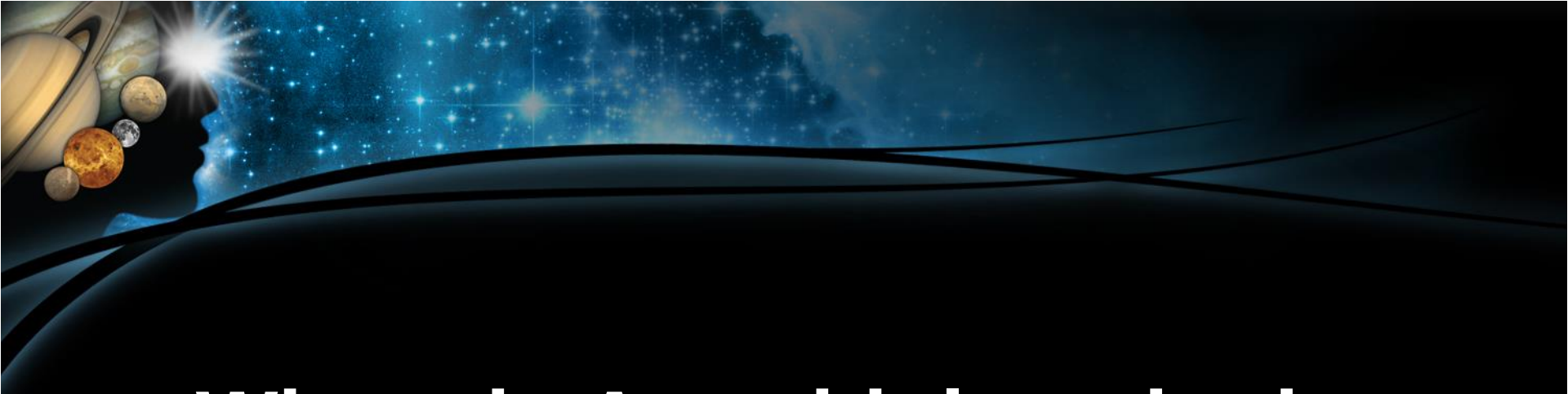
CAPS Meeting
Washington, DC 03/03/2014



Where is Astrobiology in the New R&A Structure?

New Core Research Programs

How did the Sun's family of planets, satellites, and minor bodies form and evolve?	Emerging Worlds
How do the chemical and physical processes active in our solar system operate, interact and evolve?	Solar System Workings
What are the characteristics of the solar system that lead to habitable environments?	Habitable Worlds
How did life originate and evolve here on Earth and can that guide our search for life elsewhere?	Exobiology
What are characteristics of planetary objects and environments that pose threats to, or offer potential resources for, humans as we expand our presence into the solar system?	Solar System Observations (NEOO & PAST)

Emerging Worlds
Solar systems origins and formation

Topics covered by this program element include, but are not limited to:

- Protoplanetary disks
- Formation of planets and planetary systems
- Dynamics of early planets and planetary systems
- Primitive Solar System materials
- Presolar grains
- Early processes on small bodies
- Global-scale differentiation of planetary bodies following formation
- Formation and delivery of volatiles, organic compounds, and other materials to planetary bodies

Exobiology

How did life originate and evolve on Earth?

Topics covered by this program element include, but are not limited to:

- Prebiotic evolution
- Early evolution of life and the biosphere
- Adaptations for life in extreme environments
- Evolution of advanced life (Eukaryotes and multi-cellularity)
- Causes and biological responses to mass extinctions

Habitable Worlds

Characteristics and distribution of habitable environments in the Solar System and beyond

Target bodies for this program element include, but are not limited to:

- Mars
- Icy Worlds
- Exoplanets

Exoplanets

Cross-division program between Planetary Science and Astrophysics

Topics covered by this program element include, but are not limited to:

Astrophysics

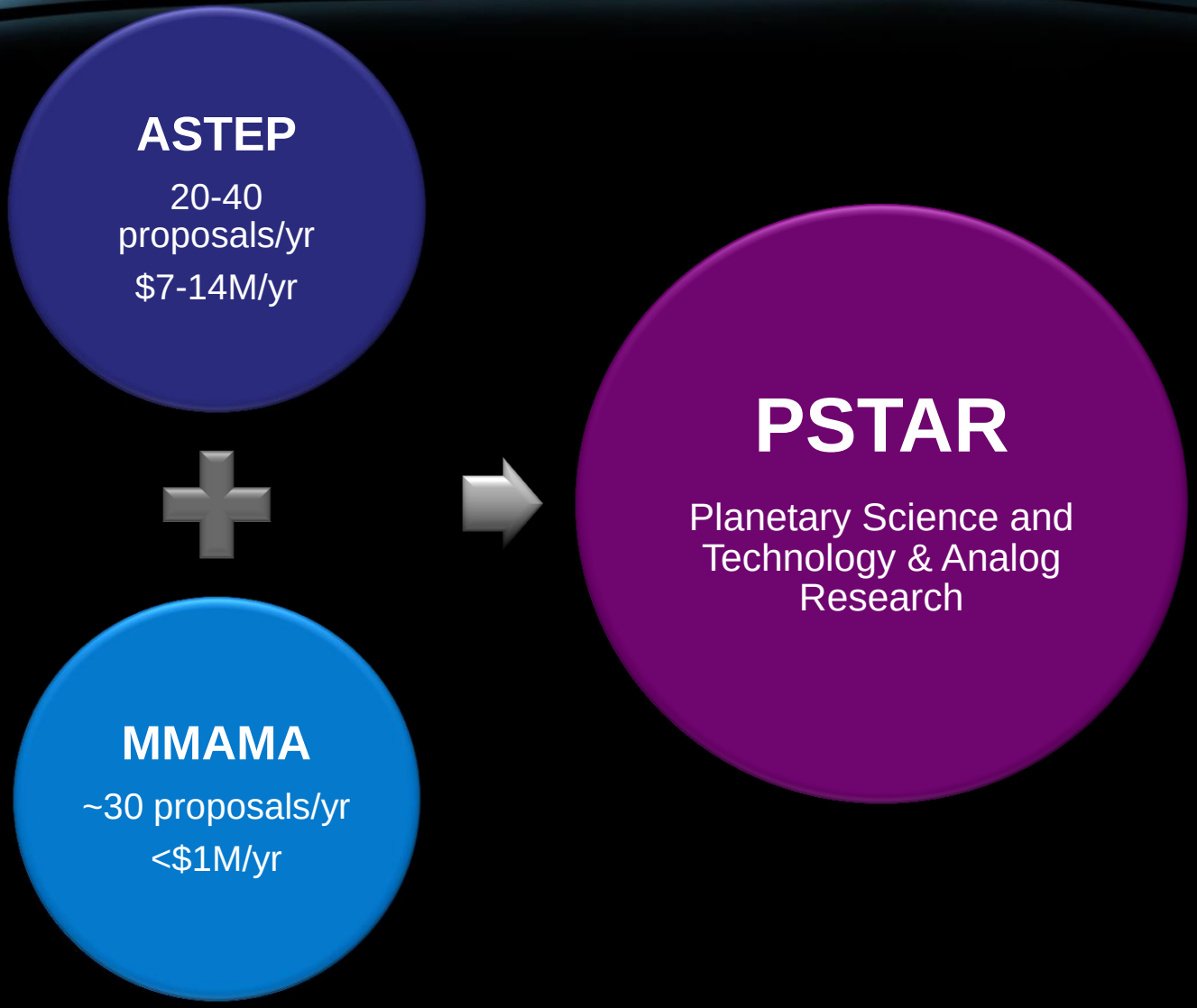
- Investigations to detect exoplanets
- Characterization that aids in the detection of new exoplanets

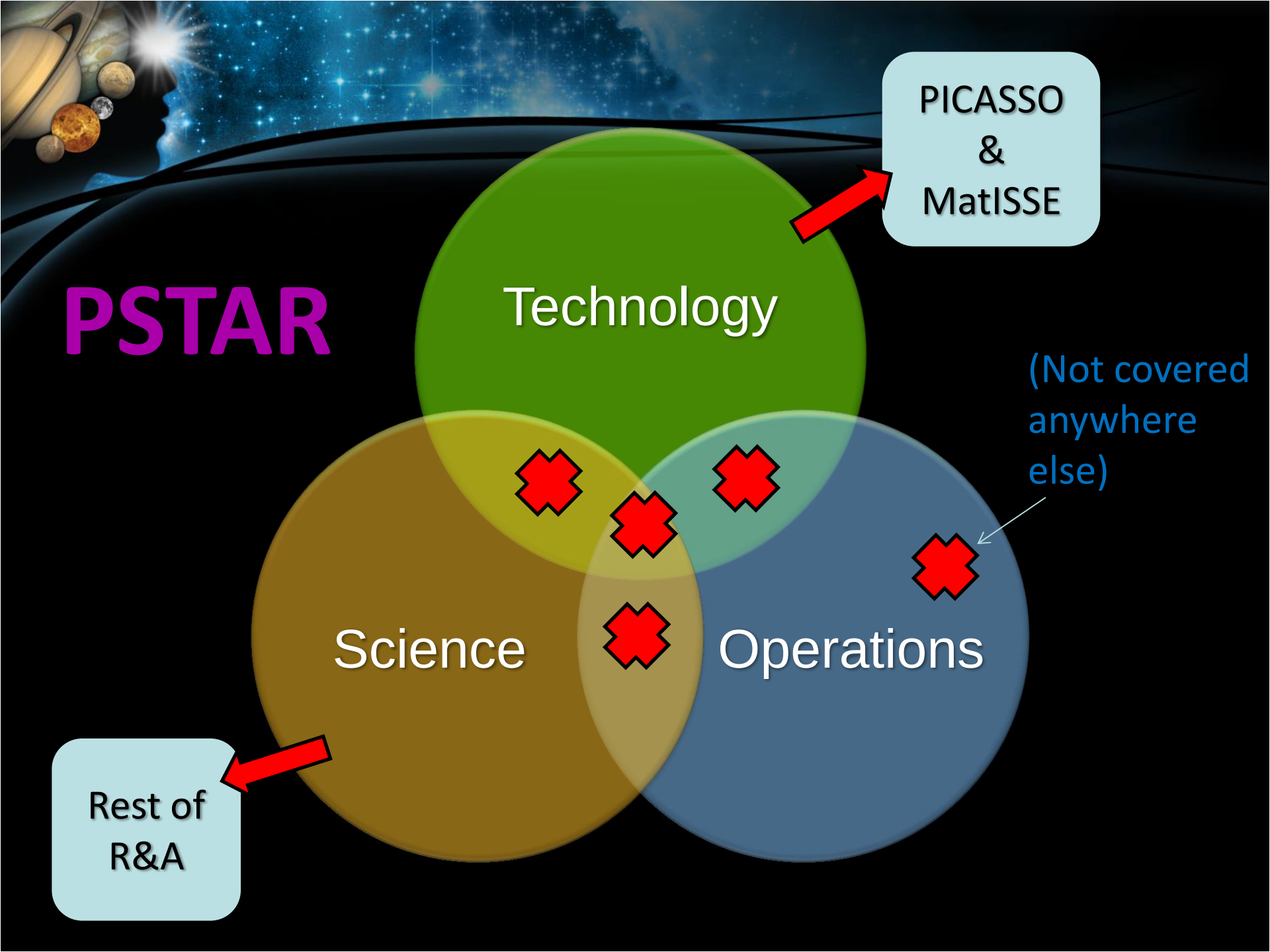
Planetary Sciences

- Explain observations of exoplanets
- Understand the chemical and physical processes occurring on exoplanets
- Improve understanding to the origins of exoplanetary systems

Proposals pertaining to the conditions for habitability of exoplanets are solicited in the Habitable Worlds call.

Future of ASTEP




PSTAR
Technology
Science
Operations
PICASSO
&
MatISSE
(Not covered
anywhere
else)
Rest of
R&A

Current & Upcoming Solicitations

– EXOB proposals were due 14 June 2013,
  - Received 150/ selected 26

- PICASSO was offered for 1st time Due Date Sept 2013 (~100).

- ROSES-14 released in February.

CAN-7

- New process for CAN-7 – two-step
  - Received 56 Proposals
  - Encourage 38
  - Discouraged 18
- Plan on selecting 6-7 teams from CAN-7.
- Any changes will maintain a multi-disciplinary institute but we want more focused, inter-disciplinary teams.
- New requirements Data Management and sample registration
- Redactions of all Salary information
- E/PO proposals will be solicited from winning teams and funding mechanism TBD

Development of the new Astrobiology Strategy: An Update

The Process Up to Now

Kickoff Webinars

1 Question Webinars

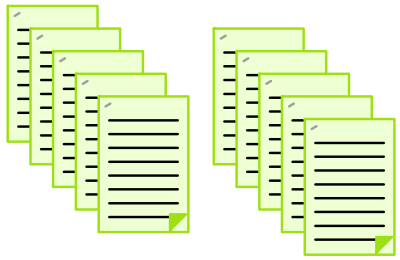
Forums

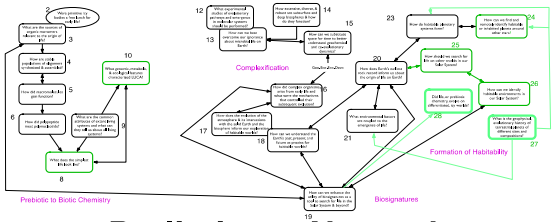
Virtual Community
astrobiologyfuture.org

Open commenting

Webinars on Papers

20+ White Papers





Preliminary Network

Some Details

- 691 Members of astrobiologyfuture.org from around the world!
  - 91 discussions
  - 651 posts
  - Videos of all webinars available for viewing
    - YouTube astrobiology channel
- Entering integration workshop are 26 concept papers

Integration

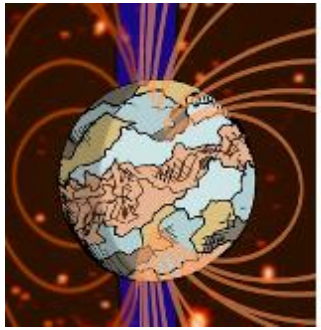
- At workshop, concepts will be grouped into themes.
  - Theme introductions will be drafted.
  - Connections between concepts within a theme and across themes will be enumerated
- Goal is to have a working draft of the Strategy.
- An editor/writer has been retained to aid in integration

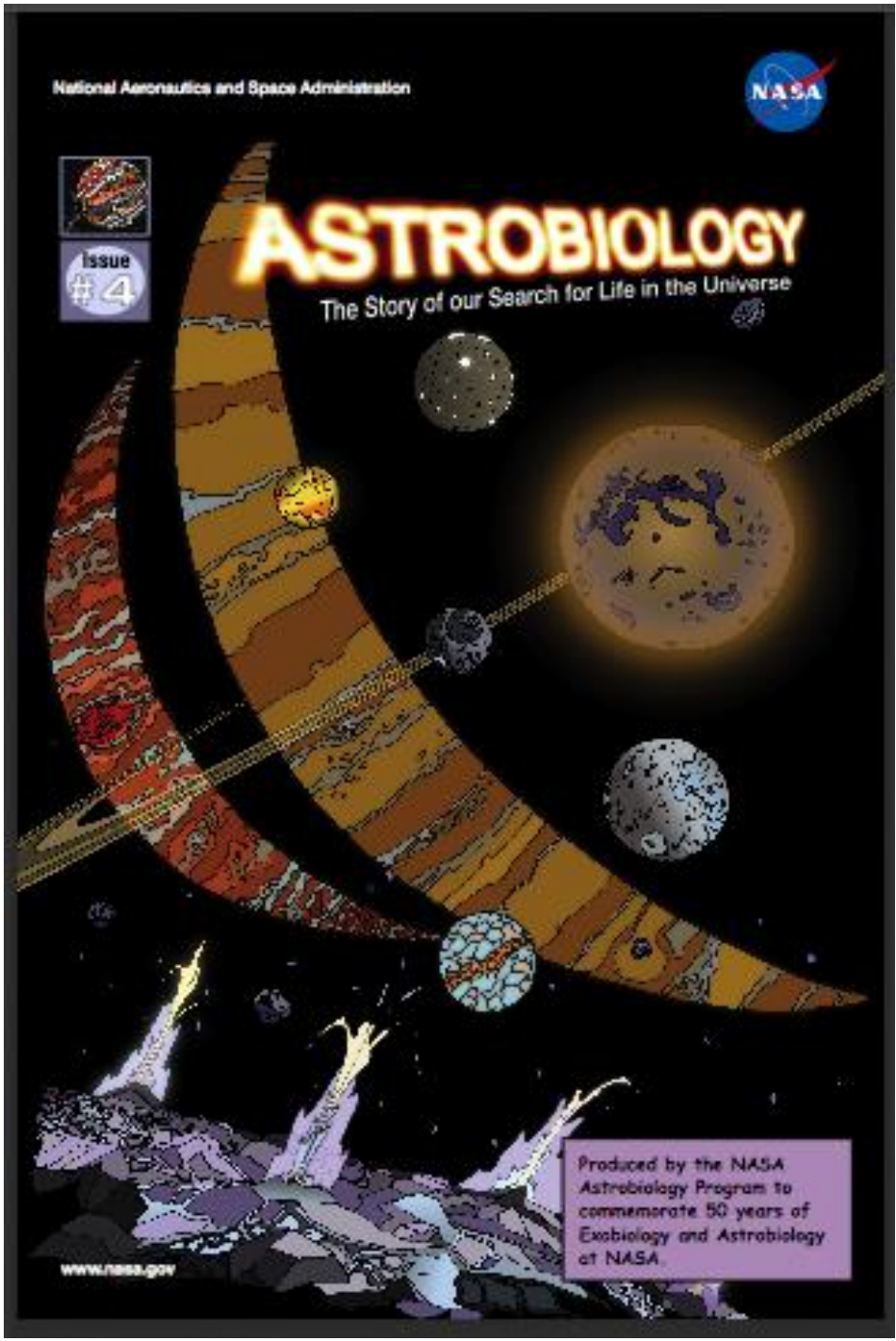
Outline of Strategy

- Introduction
- Overview of Progress Since 2003/2008 Roadmaps
- Statement of Astrobiology's Principles
- THEME SECTIONS
- The Future
- Appendix: How this strategy came to be
- Appendix: Astrobiology Issues and the Humanities
- Appendix: List of Authors

Astrobiology Graphic History – Issue #4

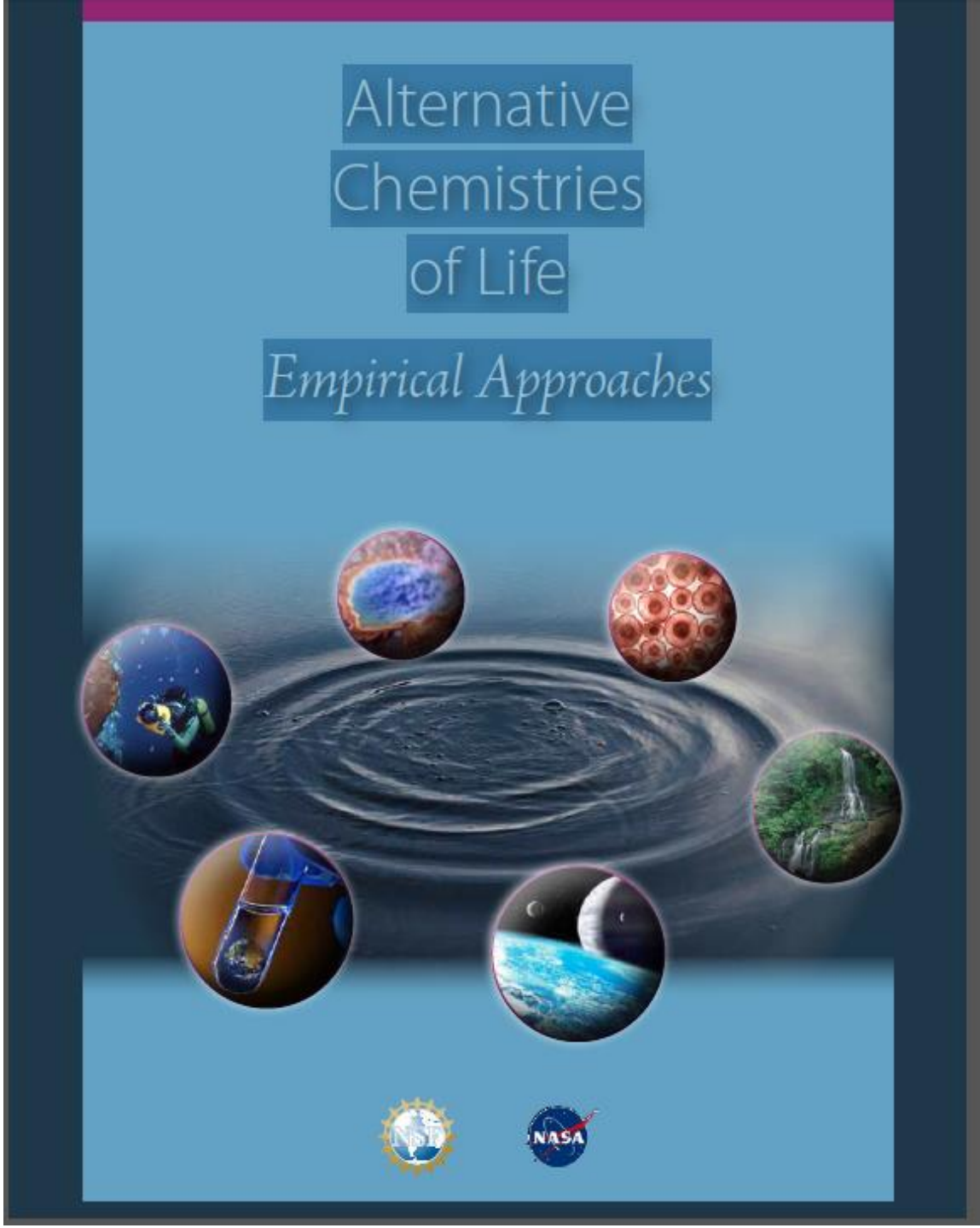
Missions to the Outer Solar System



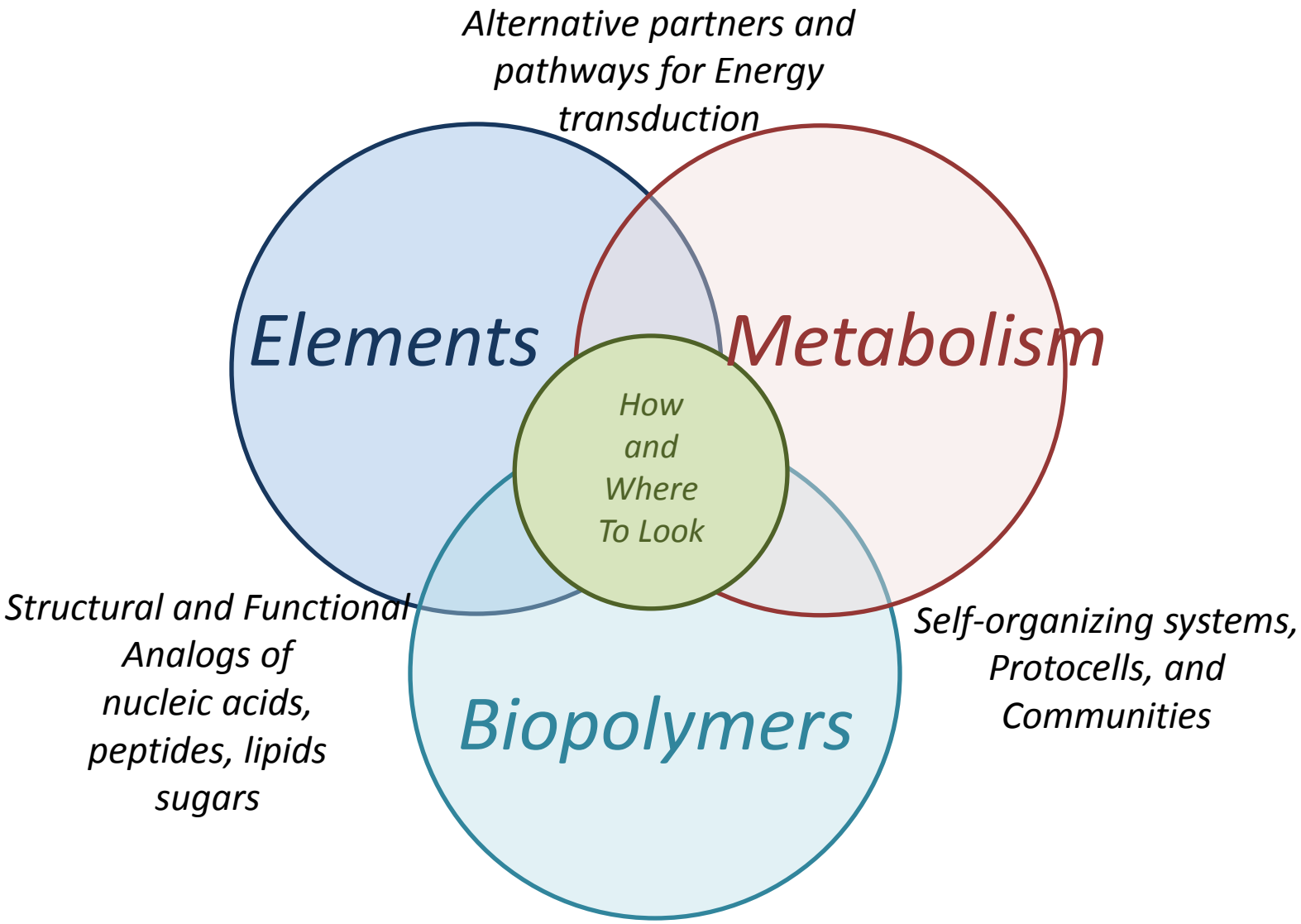


Workshop Report
Hosted by NSF
and NASA

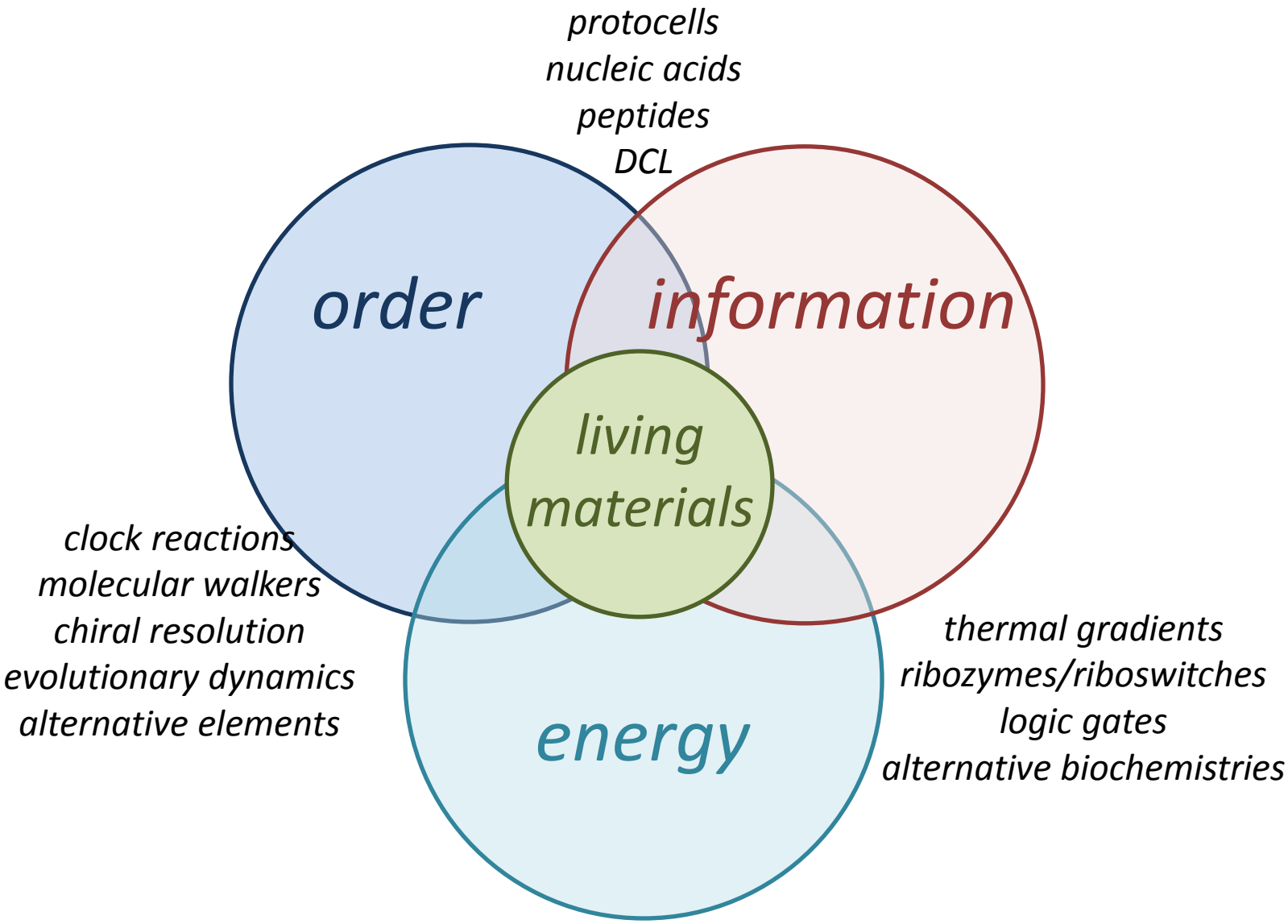
Chairs: David
Lynn, Cynthia
Burrows, Ginger
Armbrust

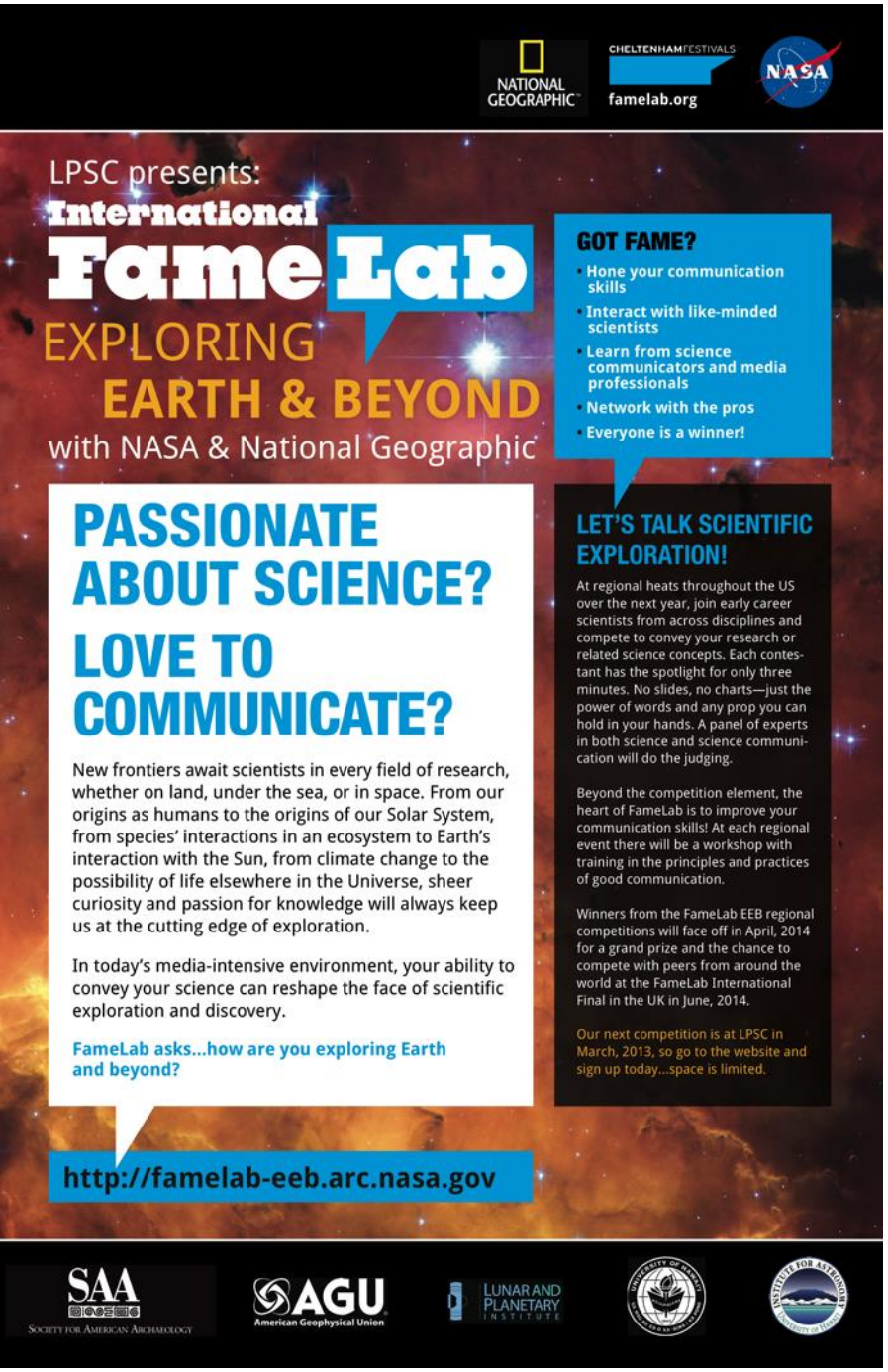


Alternative Chemistries of Life



emergence of living materials





- NASA partnered with National Geographic and collaborated with science society meetings for "prelims"
  - AGU, LPSC, Society of American Archaeology, Nat Geo Explorers, AGU (redux), YouTube
- Finals in April 2014 DC at National Geographic
-
- Future partner British Council

AbSciCon Update

- Cancelled in 2014 will resume in 2015.
- We are working the issues associated with recent rules for NASA supported conferences.
  - Monitoring LPSC-2014 as a model for what we'll have to do with AbSciCon
- Odd years will have AbSciCON
- Even years greater presence at LPSC

AbSciCon Update

LPSC 2014

92+ Astrobiology Abstracts

2 sessions (Habitable worlds/environments)

Contract with LPI

Host:

University of Illinois Chicago

Chair: Peter Doran