

Brief Introduction to the NASA Astrobiology Institute

Presented to the
Space Weather Workshop

NASA Ames Research Center
October 16, 2011

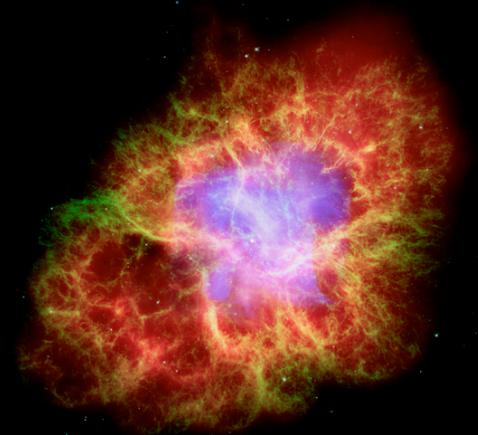
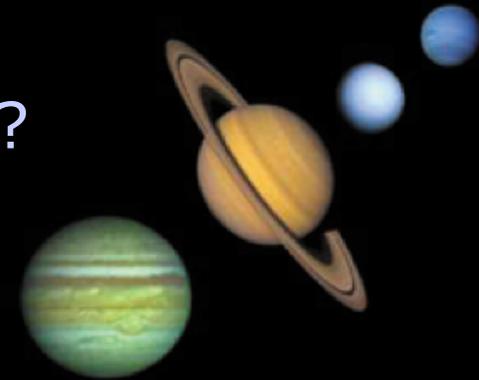
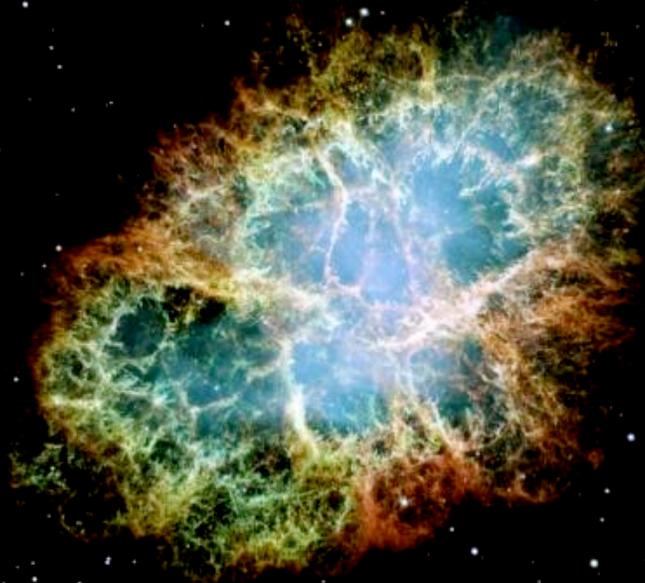
Carl B. Pilcher, Director
NASA Astrobiology Institute
NASA Ames Research Center



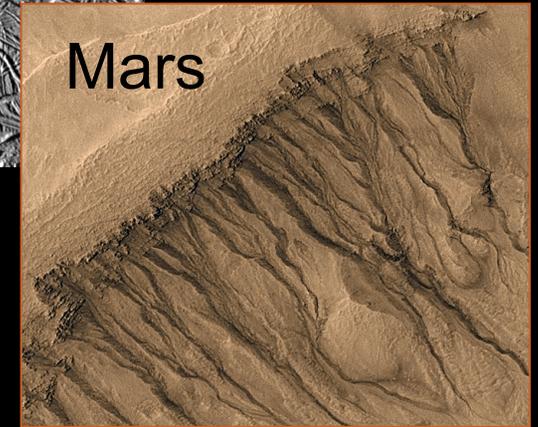
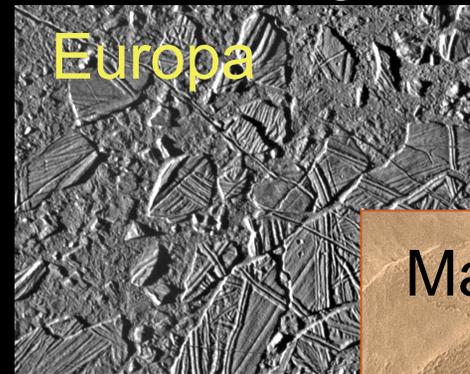
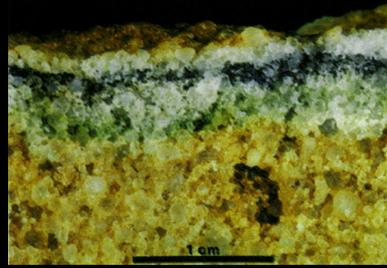
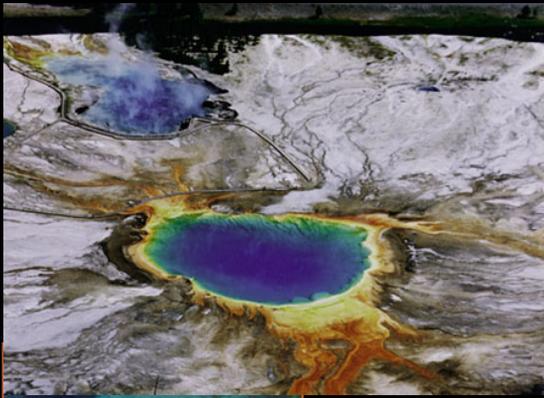


Astrobiology addresses three fundamental questions

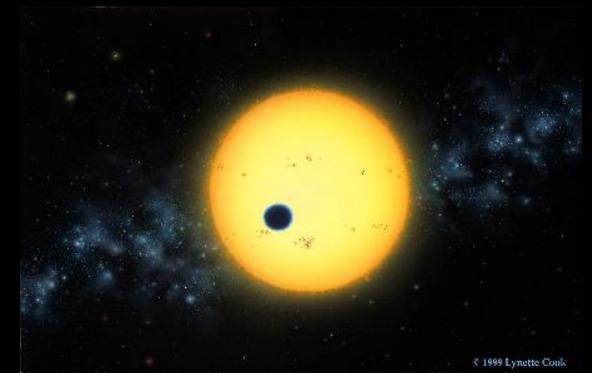
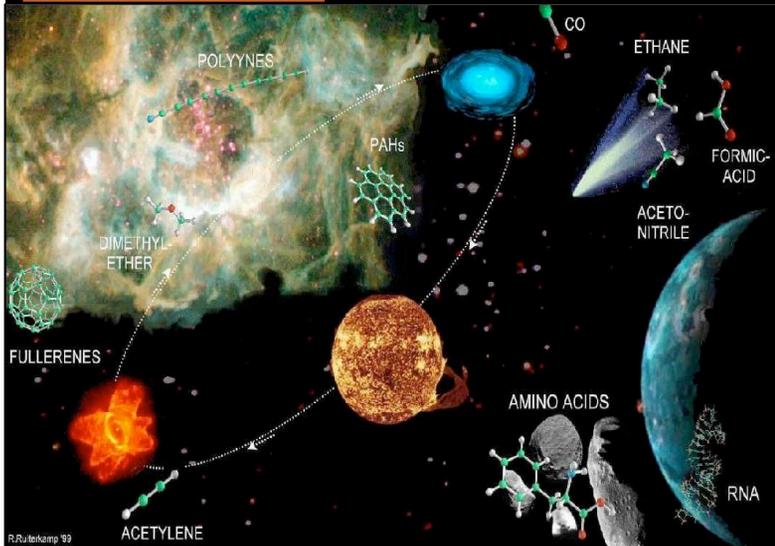
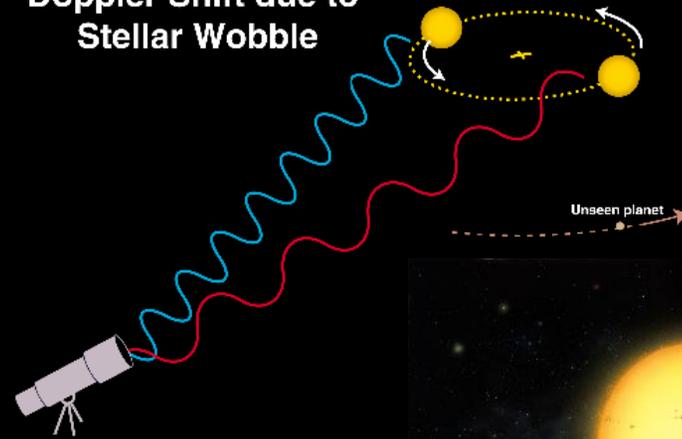
- How does life begin and evolve?
- Does life exist elsewhere in the universe?
- What is the future of life on Earth and beyond?



Four Areas of Science Converge



Doppler Shift due to Stellar Wobble





Astrobiology
Institute



Evolution

Earth Science

Geology

Physics

Paleontology

Astronomy

COLLABORATION

Chemistry

Biology

Philosophy

Planetary Science



Astrobiology
Institute

NAI Overview

- 'Virtual' institute 'without walls'
- 14 competitively-selected science teams (each a consortium)
- ~600 members at ~150 participating institutions
 - ~400 "senior" scientists / ~200 postdocs and students / ~16 members of the US National Academy of Sciences
- Managed/integrated by a central office at NASA Ames Research Center



International Partners

Associate

- Centro de Astrobiologia (Spain)
- Australian Center for Astrobiology

Affiliate

- Astrobiology Society of Britain
- European Astrobiology Network Association
- Société Française d'Exobiologie
- Russian Astrobiology Center
- Instituto de Astrobiologia Colombia
- Nordic Astrobiology Network



NAI Mission Statement

Five elements



Train the next generation of astrobiologists



Education and Outreach

Collaborative, interdisciplinary research



Provide leadership for NASA space missions



Information technology for research⁶



Other NAI Programs

- Focus Groups
- Postdoctoral Fellowship Program (*for graduate students*)
- The Lewis and Clark Fund for Exploration and Field Research in Astrobiology (*for students*)
- Research Scholarship Program (*for students*)
- Minority Institution Research Support Program
- Meeting and Workshop Fund
- Education and Public Outreach



NAI Website

<http://astrobiology.nasa.gov/nai>



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SEARCH

ASTROBIOLOGY
LIFE IN THE UNIVERSE

NASA ASTROBIOLOGY
INSTITUTE

Paleobiology During the Genomics Era

May 12 – 13, J. Craig Venter Institute, San Diego

J. Craig Venter
INSTITUTE



IN MEMORIAM: DR.
BARUCH S. BLUMBERG

A HOT, ACIDIC
PRIMORDIAL SOUP

HAPPY ANNIVERSARY,
EXO/ASTROBIOLOGY!

A symposium will be held at the J. Craig Venter Institute in San Diego, California to facilitate interactions between paleobiologists and scientists using the latest techniques in molecular biology. The primary objective is the exchange of knowledge and the development of a dialog that might yield cutting-edge ideas for future work.

[READ MORE](#)

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Tags
Glossary

Asteroid Served Up "Custom Orders" of Life's Ingredients



A fragment from the Tagish Lake meteorite. Credit: Michael Holly, Creative Services, University of Alberta.

Some asteroids may have been like "molecular factories" cranking out life's ingredients and shipping them to Earth via meteorite impacts. Now it appears that at least one asteroid may have been less like a rigid assembly line and

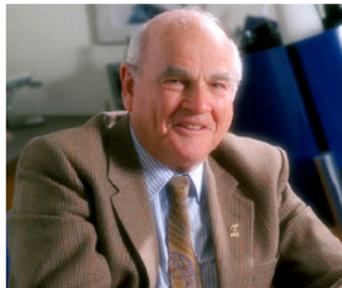
SPOTLIGHT

NEW Astrobiology All-access Events:

5/12-5/13: Paleobiology During the Genomics Era

NEW Planetary Science Decadal Survey Released

2009 Annual Report



Intended for

» Science-interested public

» Educators/students

» NAI researchers and the astrobiology science community



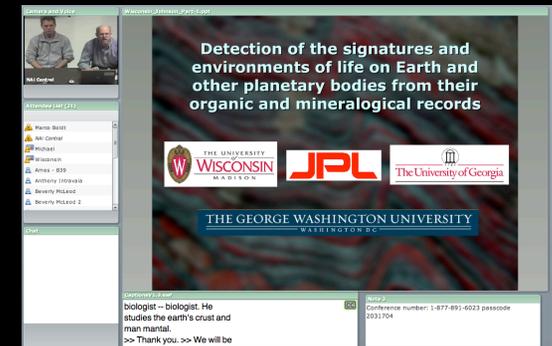
NAI Collaborative Tools: approach

Make a suite of tools available...

- Web sites
- Newsletters
- Multi-point videoconferencing (room based and desktop)
- Telecons
- Adobe Connect
- Online recordings
- Podcasts
- Secure Work groups
- 3-D Immersive Environments
- Virtual worlds
- Social networking tools
- Online office tools: Google groups, Google docs etc



Virtual workshops



NAI Seminar series

Use them in various ways...



Mixed reality meeting



Astrobiology
Institute

Questions?