NASA Space Sciences Strategic Planning

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ORIGINS THEME SCIENTIST

NASA / HQ

NASA Strategic Planning

- NASA Strategic Planning, Roadmaps, GPRA, and all that.
- Schedule, People, Origins/SEU
- Issues:
  - Decadal report priorities
  - Breadth of the Research
  - Content
NASA ADVISORY STRUCTURE

The Strategic Planning Process

National Academy Fundamental Science Questions

Roadmap Teams
Space Science Roadmaps Long Range Program Alternatives

Community Strategic Planning

SSE Strategic Plan Science Questions/Science Goals

SSAC & Subcmtes

SSE Performance Plan & Metrics

External Community Assessment

SSE Performance Report

NASA Strategic Plan

President’s Budget Congressional Actions

Budget & Guidance
Purpose

- Fulfill the strategic planning requirements.
- Provide a guide to the science community in presenting research requests to NASA.
- Inform and inspire.
- Focus investments in technology and research for future missions.
- Provide the scientific and technical justification for augmentation requests.

Relevant Time Scales

- GPRA is an annual event, so the Roadmaps feed this exercise through the Enterprise Strategic Plan.
- Strategic Planning occurs on a 3 year cycle where the near term outlook is for 5 years.
- Roadmapping also is on a 3 year cycle, but looks out 10 years and 20 years.
  - For Origins, the next 5-8 years is well defined.
  - For SEU, funding beyond GLAST for LISA, and Con-X is uncertain.
## Second Workshop on New Concepts for Far-Infrared and Submillimeter Space Astronomy

### Activity Name

<table>
<thead>
<tr>
<th>Activity Name</th>
<th>Start Date</th>
<th>Finish Date</th>
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<tbody>
<tr>
<td>Kickoff Telecon to set workplan</td>
<td>8/15/01</td>
<td>12/1/01</td>
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<tr>
<td>Identify/recruit committee members</td>
<td>8/15/01</td>
<td>11/1/01</td>
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<tr>
<td>Prepare Guidelines &amp; Distribute</td>
<td>8/15/01</td>
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<td>Prepare Plan for OS Meeting</td>
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<td>Prepare synthesize/issues</td>
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<td>Roadmap Committee Workshop</td>
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<td>2/6/02</td>
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<td>3/2/02</td>
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<td>Prepare synthesis for OS Review</td>
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<tr>
<td>Hear selections from NRA</td>
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<td>Prep for OS/SEUS Meeting</td>
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<tr>
<td>Briefing on NRA Concept Studies</td>
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<td>8/19/02</td>
<td>8/30/02</td>
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<td>Final Publication</td>
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### Roadmap Committee

- **Write/Submit 1st Draft**: 12/10/01 - 3/2/02
- **Prepare synthesis for OS Review**: 3/3/02 - 3/16/02
- **Review 1st draft material**: 3/10/02 - 3/11/02
- **Hear selections from NRA**: 2/11/02 - 2/11/02
- **Write 2nd Draft**: 3/25/02 - 6/7/02
- **Prep for OS/SEUS Meeting**: 6/10/02 - 7/14/02
- **Briefing on NRA Concept Studies**: 6/10/02 - 6/11/02
- **Write Final Draft**: 6/24/02 - 8/16/02
- **Prep for OS/SEUS Meeting**: 8/19/02 - 8/30/02
- **Final Publication**: 9/15/02 - 11/1/02

### Some Related Activities

- **March**: 2nd Workshop on New Concepts in IR Submm Astronomy--Univ of Maryland
- **April**: Hubble Legacy Workshop--Chicago
- **April**: Astro-biology Conference--Ames
- **May**: Laboratory Astrophysics Workshop--Ames
- **May**: Astrophysics of Life--STScI
- **May**: Brown Dwarfs--Kona
- **May**: Origins 2002--Grand Teton
- **June**: International Virtual Observatory--Munich
- **June**: Research in Extra-solar planets--Washington
ASTRONOMY & PHYSICS DIVISION
ROADMAPPING ACTIVITIES

• ORIGINS  Roadmapping basically an update and redirection of the 2000 Roadmap
  • Led by the Origins Subcommittee.
  • Community input through individuals selected for expertise and from meetings like this.

• SEU is preparing both a Roadmap, and a new initiative
  • Group of 12 people led by Sterl Phinney.
  • Aimed at generating a new initiative for LISA, Con-X, and several selected smaller missions.
  • Community Input from White Papers and meetings.

ORIGINS Roadmap Organization

1 Co-Chairs
Phil Crane (HQ)
Alan Dressler (Carnegie)

2 Science Leads
Alan Dressler (Carnegie) – Lead
Lou Allamandola (ARC)
Adam Burrows (U of A)

3 Technology/Instruments
Rich Capps (JPL) – Lead

4 Research & Analysis
Hashima Hasan (HQ) – Lead

5 Astrobiology
Carl Pilcher (HQ) – Lead

6 Missions
Mike Devirian (JPL) – Lead

7 Outreach
Carl Pilcher (HQ) – Lead
SEU Roadmap Team

Roadmap team:
Sterl Phinney* (Chair)
Sean Carroll      Sarah Church      Roy Gould
Craig Hogan       Steve Kahn        Dan Lester*
Robert March      Mike Shull        Simon Swordy*
Nick White*
Rocky Kolb* (SEUS Chair)

Paul Hertz        (SEU Theme Scientist)
Paul DeMinco      (SEU Program Integration Manager)

ROADMAPPING Cont’d

• ORIGINS Roadmap will be very similar to the 2000 version
  – Origins has a funded program.
    • HST, SIRTF, SIM, NGST, SOFIA, KEPLER, TPF.
    • New mission content in the next several years from Explorer, Discovery, or possibly from a new competed mission line.
  – Future strategic missions must define their science goals and technology needs.
    • Large filled aperture IR mission
    • UV/Optical mission in the 2020 time frame
The SEU Roadmap Team solicited community input in the form of white papers describing mission concepts

**Category 1 - Missions**
- Advanced Compton Telescope (ACT)
- Constellation-X
- Cosmic Microwave Background Polarization Experiment (CMBPOL)
- Energetic X-ray Imaging Survey Telescope (EXIST)
- Fresnel Microarcsecond Gamma Ray Imager
- Generation-X
- Gravitational Echoes Across Time Mission (GREAT)
- High-resolution Spectroscopic Imaging Mission (HSI)
- International Advanced Radio Interferometry between Space and Earth (iARISE)
- Laser Interferometer Space Antenna (LISA)
- MicroArcsecond X-ray Imaging Mission (MAXIM)
- Next Generation High-Energy Gamma-Ray Astrophysics Mission
- Orbiting Wide-angle Light-collectors (OWL)
- Probing the Invisible Universe: The Case for Far-IR/Submillimeter Interferometry
- Single Aperture Far InfraRed Observatory (SAFIR)
- Space UltraViolet/Optical Observatory (SUVO)
- The Stellar Imager (SI)
- A Facility Far-Infrared Spectrometer for SOFIA
- Supernova/Acceleration Probe (SNAP)
- Tests of Relativistic Gravity via Solar System Laser Ranging
- Ultra-High-Throughput X-ray Telescope Observatory (UXT)

**Category 2 - Non-Mission Activities**
- "Amicus Brief"
- Balloon Program
- Bridging the Gap From New Instruments and Data to New Science and Understanding
- The DART System for Far-IR/Submillimeter Space Missions
- Theory of Rotation in Big Bang Universe
Roadmap Issues

- Decadal Report Priorities and Requests
  - Specific Missions & Priorities
  - Competed Missions-- Call for medium size mission like Discovery
  - Other Issues-- Theory, NVO, Lab-Astro

- Origins/SEU Priorities
  - Astronomy & Physics Div. needs a funded SEU line for LISA, Con-X and for medium size competed missions
  - How to accommodate new content in the next several years

Roadmap Guidelines

Reviews and Recommendations that guide the Roadmap priorities:
- NAS Committee on Gravitational Physics (1999)
- OSS/SEU 2000 Roadmap
- NAS Physics Survey Overview Committee (2001)
- NAS Astronomy and Astrophysics Survey Committee (2001)
- NAS Committee on Physics of the Universe (2002)