

*Introduction
to the
NIAC Fellows Meeting and Workshop
October 30-31, 2001*



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NASA Institute for Advanced Concepts

Wyn Wachhorst

The Dream of Spaceflight

It is at its frontiers that a species experiences the most perturbing stress. The urge to explore, the quest of the part for the whole, has been the primary force in evolution since the first water creatures began to reconnoiter the land. We humans see this impulse as the drive to self-transcendence, the unfolding of self-awareness...

Living systems cannot remain static; they evolve or decline. They explore or expire. The inner experience of this imperative is curiosity and awe. The sense of wonder—the need to find our place in the whole—is not only the genesis of personal growth but the very mechanism of evolution, driving us to become more than we are. Exploration, evolution, and self-transcendence are but different perspectives on the same process.



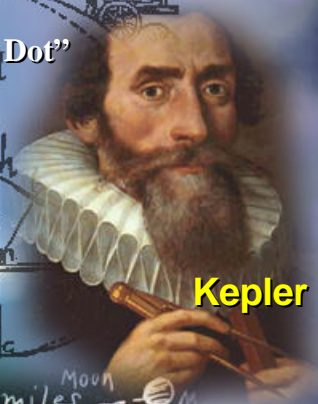
The visions we offer our children shape the future. It matters what those visions are. Often they become self-fulfilling prophecies. Dreams are maps.

— Carl Sagan, 1994, "Pale Blue Dot"

DaVinci



Galileo



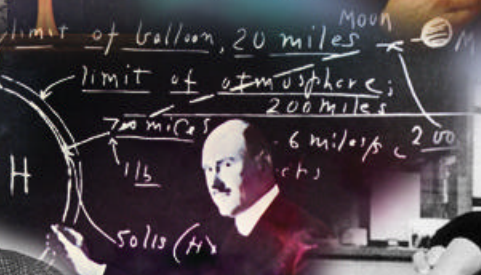
Kepler



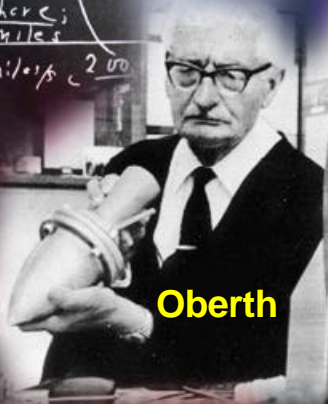
Verne



$E=mc^2$

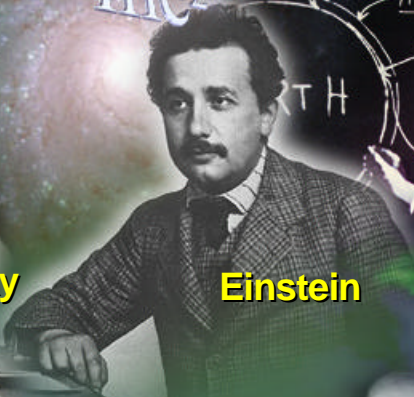


Goddard



Oberth

Korolev



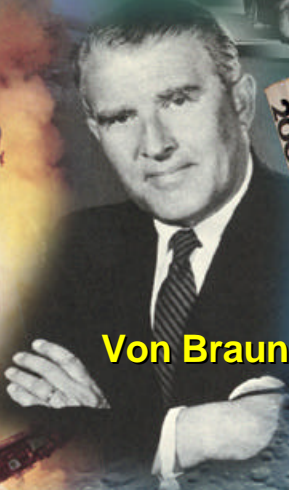
Einstein



Tsiolkovsky



Von Braun



Lee



Clarke



Sagan



O'Neill



Margulis

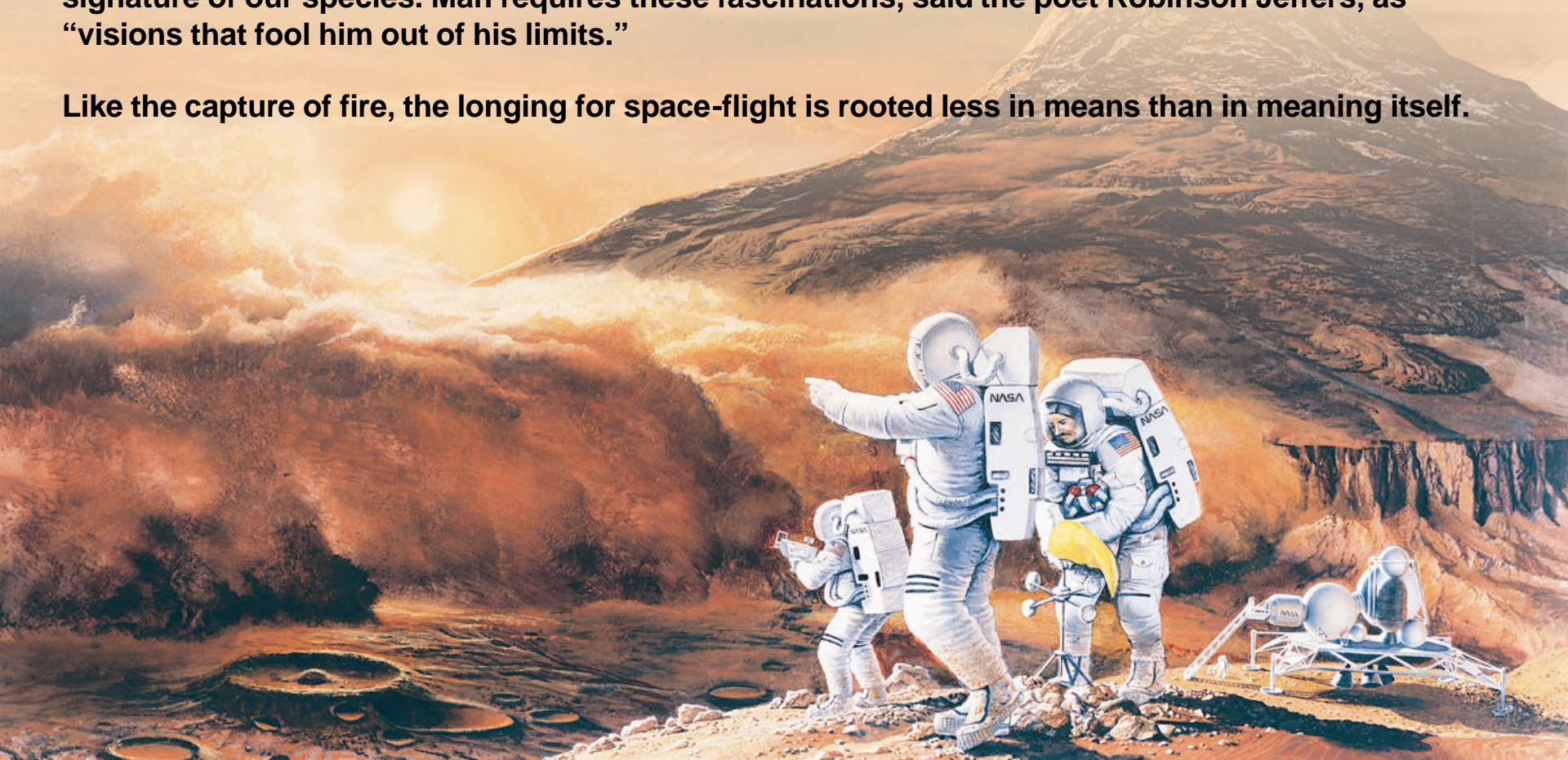


Wyn Wachhorst, The Dream of Spaceflight

The frontier, like the world of the child, is a place of wonder explored in the act of play. Work is self-maintenance; play is self-transcendence, probing the larger context, seeking the higher order...

Joseph Campbell has observed that in countless myths from all parts of the world the quest for fire occurred not because anyone knew what the practical uses of fire would be, but because it was fascinating. Those same myths credit the capture of fire with setting man apart from the beasts, for it was the earliest sign of that willingness to pursue fascination at great risk that has been the signature of our species. Man requires these fascinations, said the poet Robinson Jeffers, as “visions that fool him out of his limits.”

Like the capture of fire, the longing for space-flight is rooted less in means than in meaning itself.



Where have we been?

Where are we going?

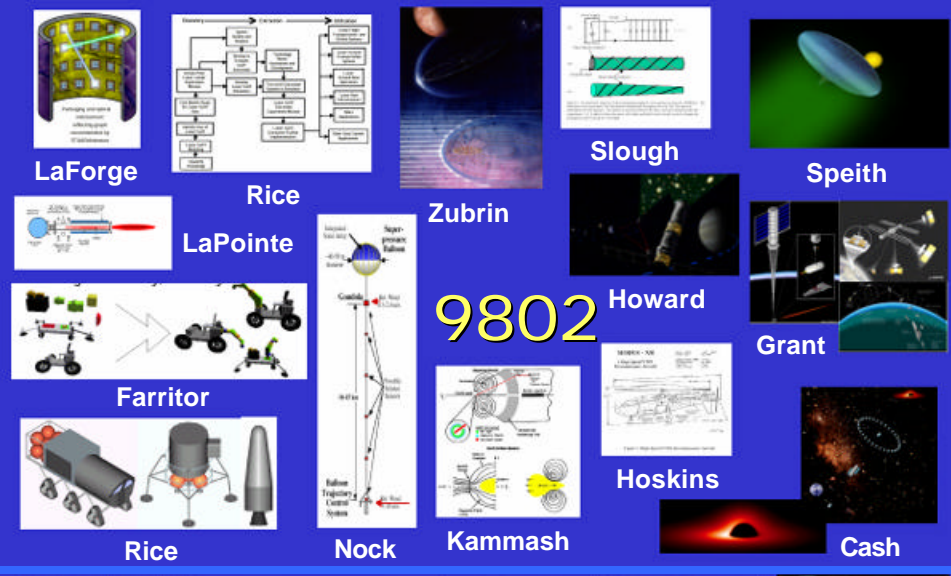
*We shall not cease from exploration
And in the end of all our exploration
Will be to arrive where we started
And know the place for the first time.*

– T. S. Eliot, “Little Gidding”



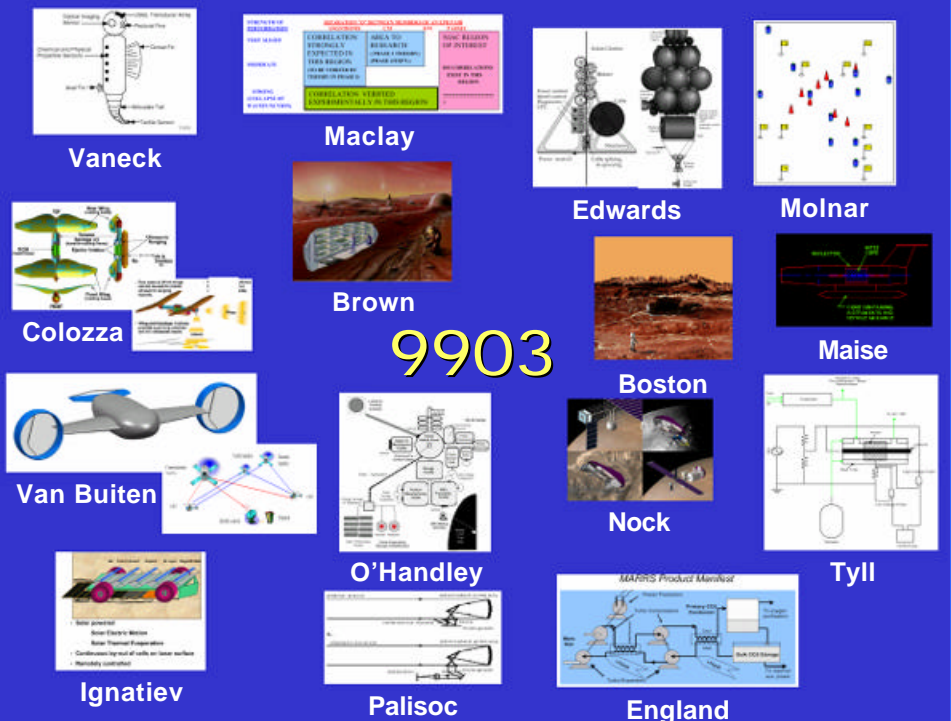
Jacobs Campbell Kroo McNutt Landis
Gorenstein Hoyt Woolf
Dubowsky Seward
Bekey Gold Stancil Howe Hawk

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LaForge Rice Zubrin Slough Speith
LaPointe Farritor Rice Nock Kammash
Howard Grant Hoskins Cash

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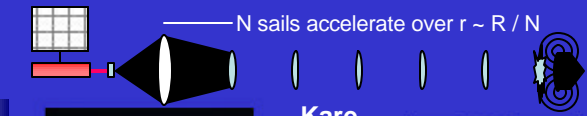
Vaneck Maclay Edwards Molnar Brown
Colozza Boston Maise
Van Buiten O'Handley Nock Tyll
Ignatiev Palisoc England

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Bacon Cybenko Newman Hoffman
Omidi Paniagua Montemagno Kammash Lomax
Hodgson LaPointe Kare Zhou

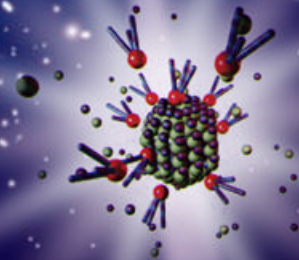
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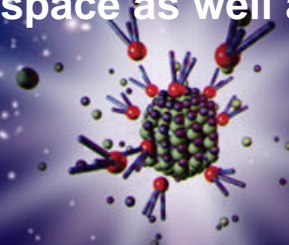
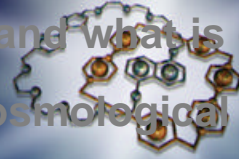
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- Seek knowledge to understand how we evolved and what is our destiny.
- Search for life in the universe and understand cosmological phenomena.



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- Pursue the fascination of space and satisfy the human drive for exploration of the vastness of space, often at great risk.
- Make possible the safe, affordable and effective exploration, development and self-reliant habitation of our solar system – and eventually space beyond our solar system – by humans and their agents.
- Mediate the effects of the space environment, such as microgravity and radiation, on humans and other living things,



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- Understand the influence on the Earth system of the actions of mankind, the natural cyclic phenomena in the Earth's system and the interaction of the Sun-Earth system.
- Create tools and techniques to access, visualize and interpret data and model findings.
- Predict the future evolution of the Earth system and its relationship to natural phenomena and human activity, and validate this predictive capability.

NIAC Phase I Call for Proposals, CP 01-02

Can be downloaded from NIAC website: <http://www.niac.usra.edu>

Proposals Due: February 11, 2002

Technical Proposal: 12 pages, 300K, submitted electronically only

\$75K Grant

Performance Period: up to six months

Phase I recipients become eligible to submit Phase II proposal

NIAC Science, Exploration and Technology Council

Mark Abbott
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John Evans
Jerry Grey
Gentry Lee
Lynn Margulis
Dava Newman
Parker Stafford
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