



Ideas Lab
Briefing for HPAC
Dec 18, 2018

Dr. Mary Voytek
Senior Scientist for Astrobiology



*“If you always do
what you always did,
you’ll always get
what you always got.”*

Unknown author

How Did the Ideas Lab Originate?

Summer 2007, EPSRC
contacts NSF in response
to NSB report

Begin dialog to share best
practices



NSF/NASA Ideas Lab

Inputs: Grand Challenge Topic, Creative People, Money



Creative Environment: "Ideas Lab"



Outputs: Potentially Transformative, Novel, Adventurous, Innovative, Interdisciplinary Ideas

Who is Involved?

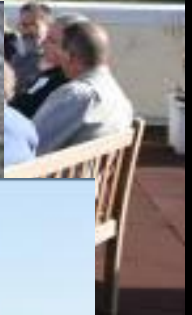
Mentors

- focus on the topic

Facilitators

- focus on the process

Participants





Participant Selection Process

Open call for participants

- 2-page application
 - Expertise, experience
 - Teamwork, communication, “outside the box”

Selection panel

- Panel of Experts
- Advised by organizational psychologist

Selection of participants made by NSF/NASA
Program Officers



Interact



Clarify



Ideate

Develop

Implement

Five day residential Ideas Lab



2 months

Submit full proposals

Real time peer review

Select project ideas



NSF-NASA Joint Ideas Lab

Theme: “The Origin of Translation”

Timeline

Due Aug 5, 2016

Participant Selections Aug 20, 2016

In Person “Ideas Lab” Late September 2016

Final Proposals Due December 2016



Origins of Life Ideas Lab Selections

NASA-funded:

1. Becoming Biotic: Recapitulating Ancient Cofactor-Mediated Metabolic Pathways on the Early Earth, PI: Laurie Barge (JPL).
2. The emergence of evolvable surface-associated interacting molecular ensembles: A chemical ecosystem selection approach, PI: David Baum (U Wisconsin)
3. Understanding Translation through Experimental Evolution, PI: Michael Travisano (U Minnesota)

NSF-funded:

1. Life Out of Water - Possibility of Evolution in Non-Aqueous Environments, PI: Loren Williams (GA Tech)
2. Biochemical, Genetic, Metabolic and Isotopic Constraints on an Ancient Thiobiosphere, PI: Boswell Wing (U Colorado, Boulder)