

33rd IAA SYMPOSIUM ON SPACE AND SOCIETY (E5)  
Contemporary Arts Practice and Outer Space: A Multi-Disciplinary Approach (3)

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VISUAL STRATEGY IN EARLY STAGE SPACE MISSION FORMULATION ENVIRONMENTS AT  
NASA'S JET PROPULSION LABORATORY

**Abstract**

In private industries, practitioners from the field of Design are integral members of development teams and span across disciplines to infuse concepts with creativity and visuals to help develop various products through design practice. This practice is not widely infused in current space exploration planning activities, preferring to rely heavily on an engineering approach for developing concepts in formulation environments. However, in recent years Designers are known to support mission formulation activities within NASA's Jet Propulsion Laboratory (JPL). This paper aims to outline the benefits of creative and visual design disciplines within early space mission concept formulation through the use of Visual Strategy as a method in support of concept maturation at JPL's A-Team within the Innovation Foundry. Visual Strategy (a term coined by the A-Team) is a design method used by Concept Designers to encourage depth of understanding through drawings, sketches, mockups, and graphics. These elements are used as boundary objects to facilitate conversations between different disciplines, including science and engineering, as well as to outside stakeholders including management and the general public. By visually articulating the conversation, participants are given cues that help them better describe their concepts, rectify misinterpretations, and converge on key points rapidly, especially when the task is focused on description, rather than convincing or interpreting. Visual Strategy borrows practices from the entertainment, film, art, and design industry, especially in the area of storyboarding, early concept design, and product development: a designer skilled in illustration, visual communication, and modeling works with key stakeholders to create visual assets and abstracted mockups that clearly describe the concept and bring it one step closer to reality from imagination, and help developing a shared meaning between participants or in the case of A-Team studies, mature the concept. In this paper we discuss the design environment and the process, and provide examples to illustrate the contributions of Visual Strategists to mission formulation.