
PCOS Program Office

Mission Studies and Technology Development

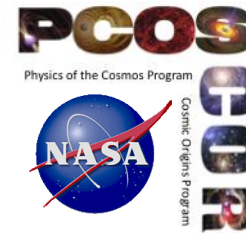
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Advanced Concepts and Technology Office Roles and Responsibilities



PCOS/COR Systems
Engineering Lead

PCOS and COR Program Office

PCOS Chief Scientist
COR Chief Scientist

Advanced Concepts and Technology Office

Jackie Townsend

Carl Stahle*
Ruth Carter
Jim Simpson

ACTO Head

Chief Technologist
Study Manager
Study Manager

PCOS and COR
Technology:

- Program cross-cut
- Infrastructure
- Study/Project

COR Mission Studies:

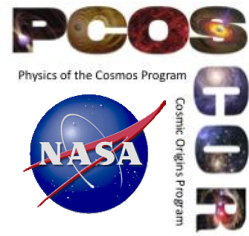
- UV/Optical Observatory
- HST De-orbit

PCOS Mission Studies:

- Gravity Wave
- X-ray
- Dark Energy
- Inflation Probe

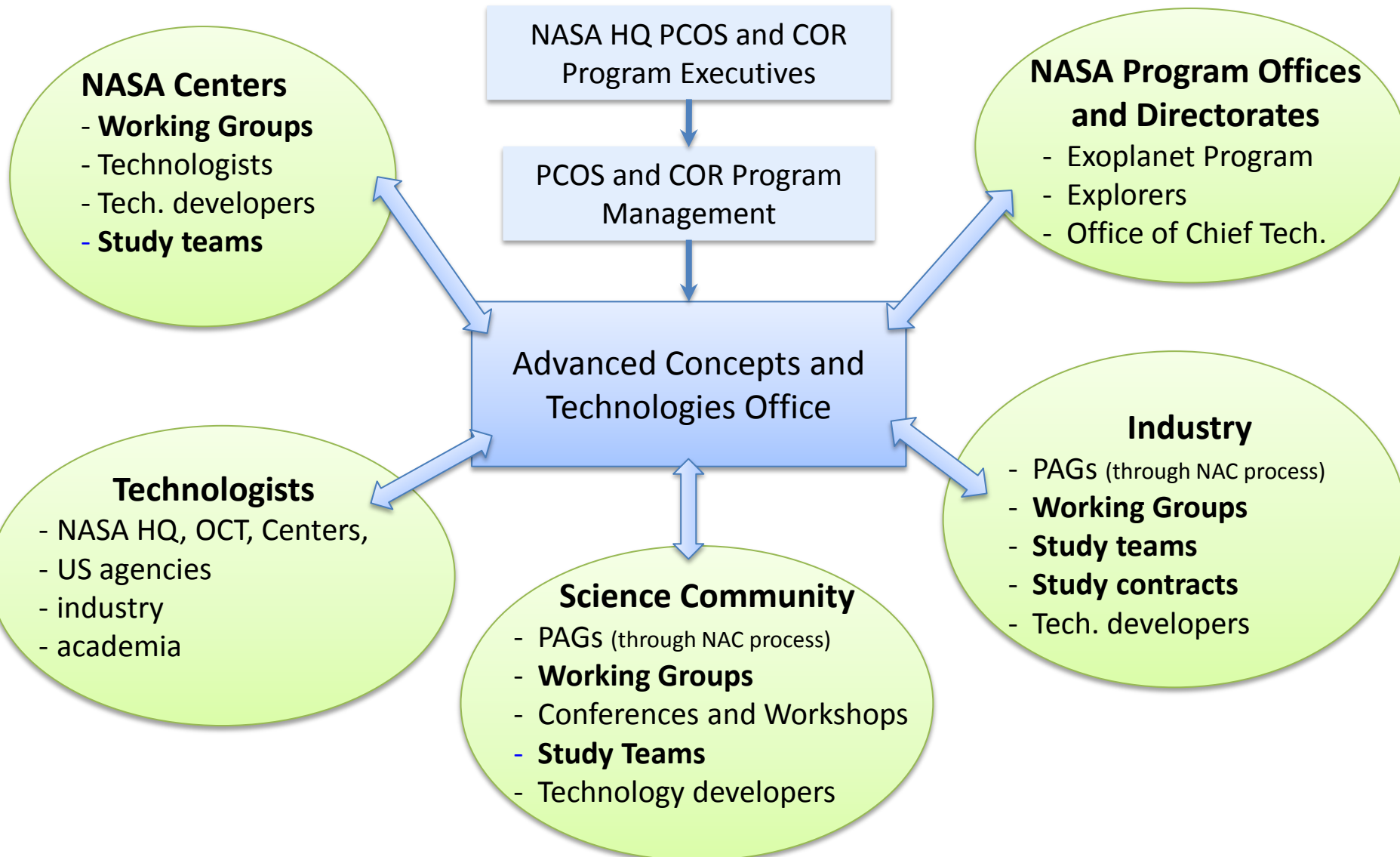
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Advanced Concepts and Technology Office Roles and Responsibilities

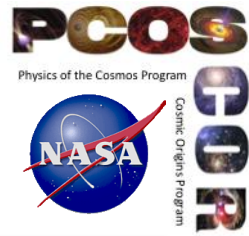


- Mission Concept Studies
 - Develop program plan for studies accounting for long-term science and technology goals for the program
 - Develop study plan for missions identified in the decadal review as directed by HQ
 - Implement studies with a reasonable balance of NASA and independent, contracted study teams
 - Provide recommended mission funding profiles and conduct trades between available funding and science priorities
 - Recommend feasible future mission lines that incorporate the appropriate science requirements, funding profiles and schedules
- Technology Management
 - Define a program technology management plan consistent with long-term science goals and an implementation plan that is within budget.
 - Manage the program technology management plan with a balanced portfolio of technology development activities.
 - Identify technologies that enable science across missions, programs, division and the agency and coordinate efforts in these areas with other groups.
 - Create technology development plans (including funding requirements) for cross-cutting and future mission technologies.
 - Monitor progress and development milestones and feed information back to stakeholders.
 - Publish annual technology report that identifies and prioritizes technologies and outlines plans.
 - Partner with industry to identify critical technologies and maintain industrial infrastructure for NASA and national needs.

Advanced Concepts and Technology Office Relationships

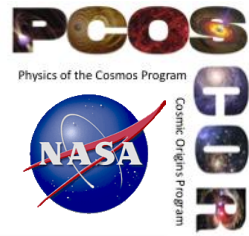


Mission Studies and Technology Development Principles (1 of 2)



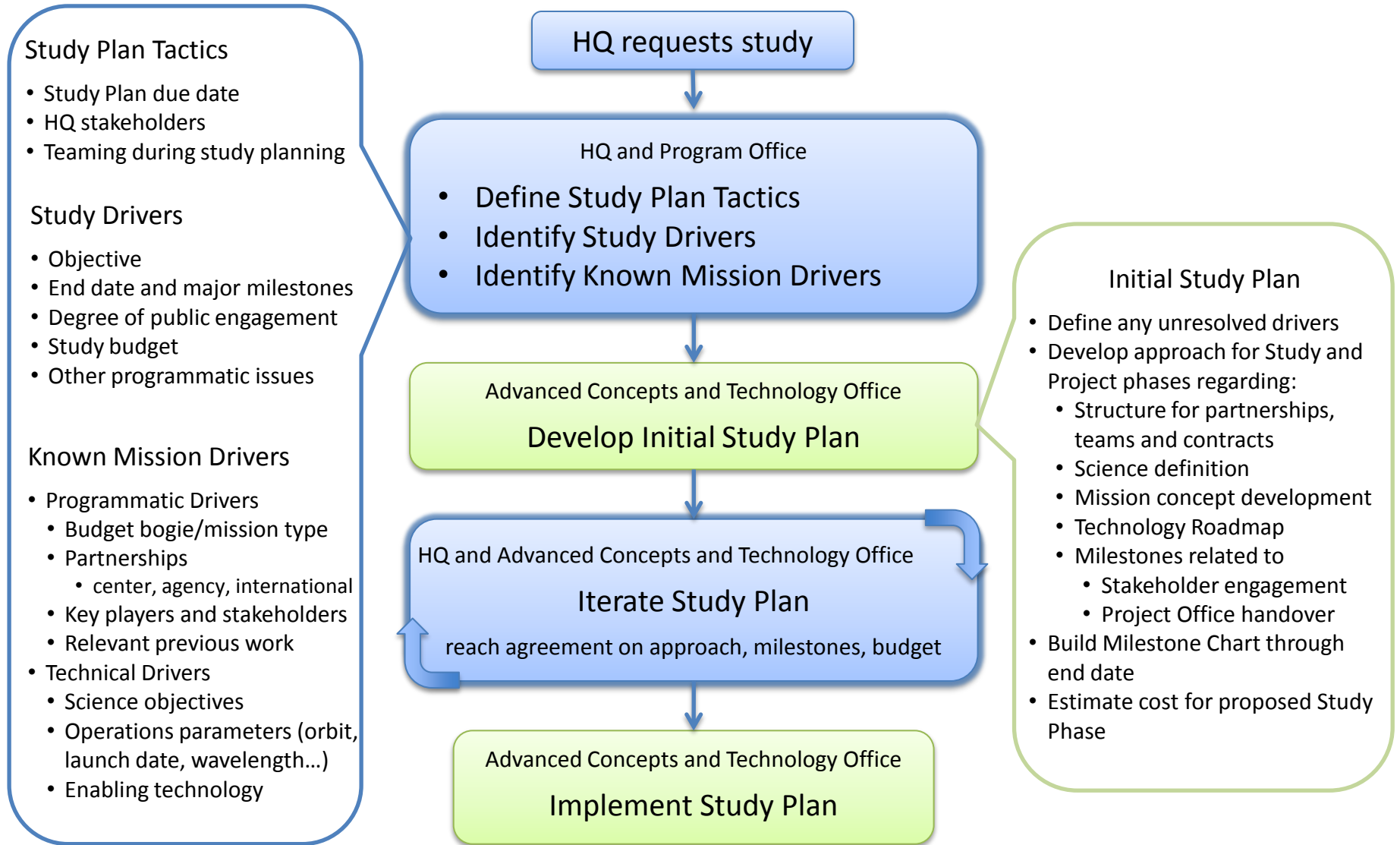
- Mission studies and technology development progress best when they are coupled.
 - Technology development that is not tied to a specific mission can spiral into a sandbox with little relevance to missions (push only).
 - Mission concepts without a technology development plan (TDP) can spiral into unattainable or extremely costly requirements (pull only).
- During the concept study phase, the Program Office functions as a community server.
 - We collect ideas from everywhere; we transmit our work everywhere
 - We encourage, enable, advocate and, in some cases, fund input from the community
 - We believe that collaboration improves success rate in a system that is constrained in terms of cost, schedule and technical requirements

Mission Studies and Technology Development Principles (2 of 2)

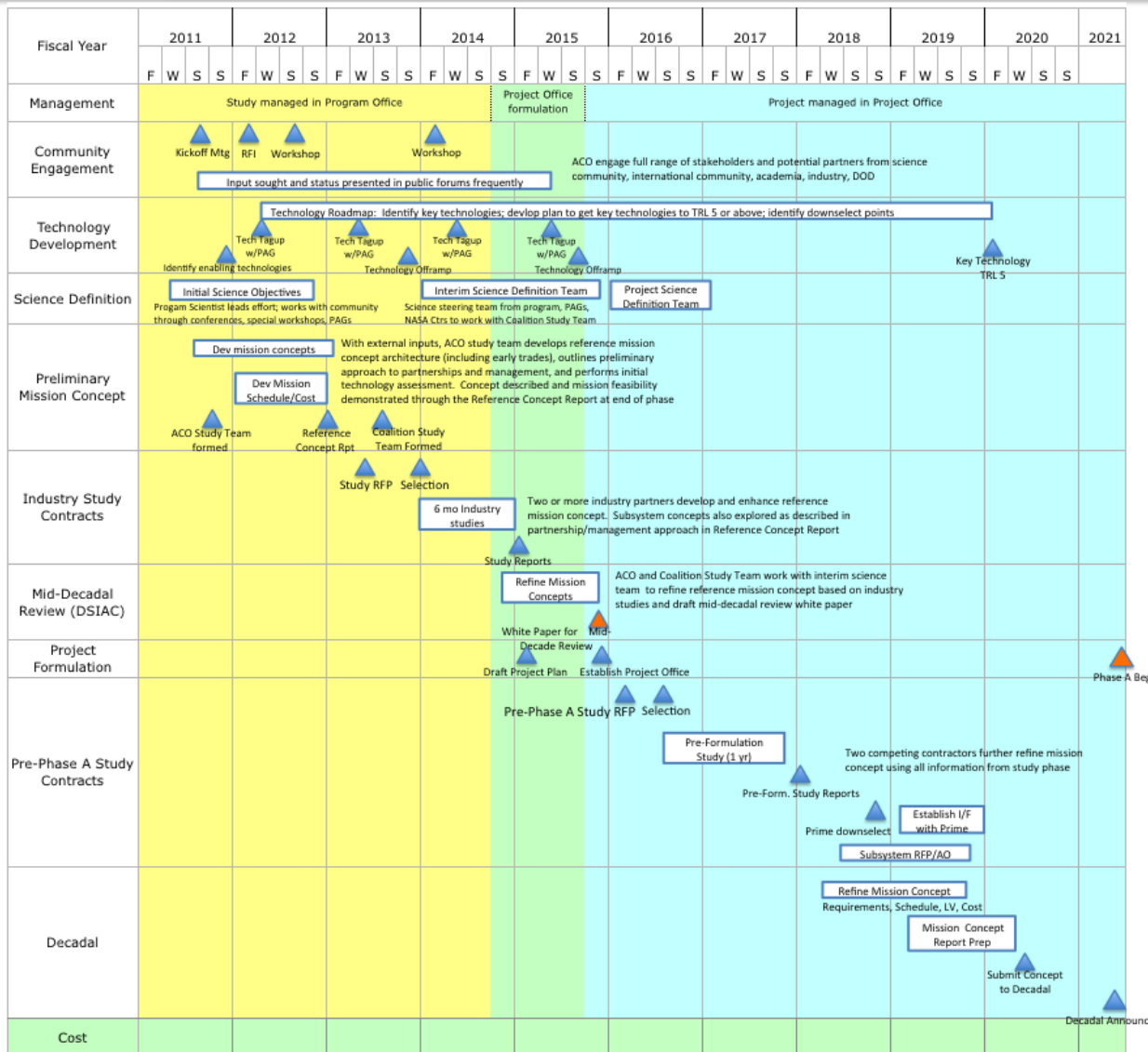


- Every program dollar for technology development shall be
 - Traceable back to program science objectives
 - Allocated and managed through a vetted, merit-based process for identifying program needs and priorities and selecting technologies for investment
 - Needs and priorities identified with input from the broad community (e.g., annual input from PAGs (through NAC process), open solicitations)
 - Program technology needs, priorities and status published in Program Annual Technology Report
- A single process addresses three different technology bins
 - Program cross-cutting or low TRL technology
 - Unique infrastructure capability that serves the community
 - Mission/project/study specific technology

HQ and Program Office Study Planning Process Block Diagram



Initial Study Plan Milestone Chart



2010 Template Study Milestone Chart

