

# Explorers and Heliophysics Projects Division

**Nick Chrissotimos**

*Program Manager*

---

**Greg Frazier**

*Deputy Program Manager*

---

**Christine Hinkle**

*Program Business Manager*

---

**PI Master's Forum #8**

**February 12, 2020**

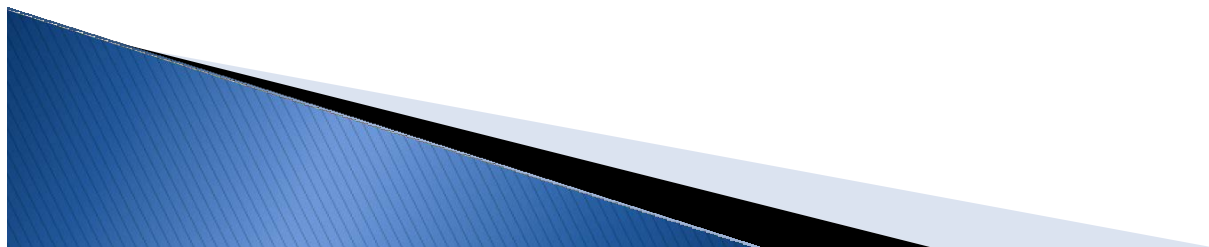


# Topics

---



- Program Overview
- Organization and Missions
- Program Office Roles and Responsibilities
- Schedule and Risk Management  
Recommendations
- Mission Assurance Recommendations





# Explorers Program Overview



1 of 2

- NASA's oldest, continuous program
- Over 100 successful missions since 1958
- Program Objective—Frequent flight opportunities for world- class scientific investigations
- Uncoupled program of missions with unique science capabilities supporting heliophysics and astrophysics science goals



# Explorers Program Overview



2 of 2

- Mission class characterized by size, schedule, and budget cost caps
  - MIDEX
  - SMEX
  - Mission of Opportunity
- Missions solicited through HQ announcement of opportunity
- Missions developed in Principal Investigator mode
- Mission oversight/insight is obtained by the Explorers program office at GSFC during Phases B-D

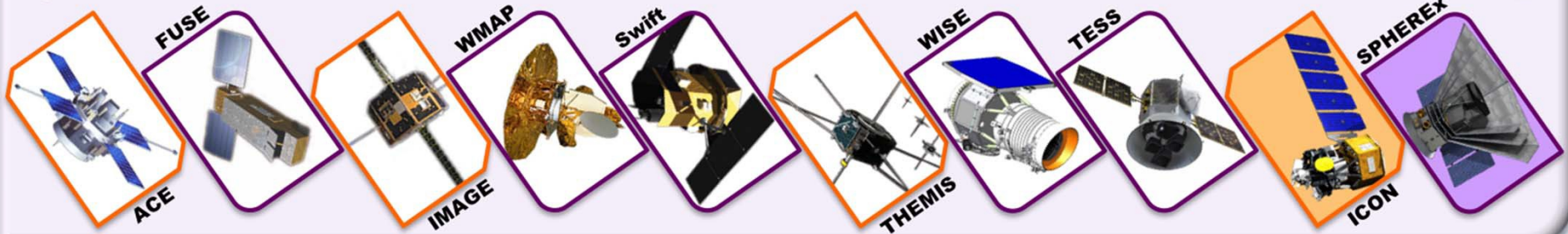




# Explorers Missions



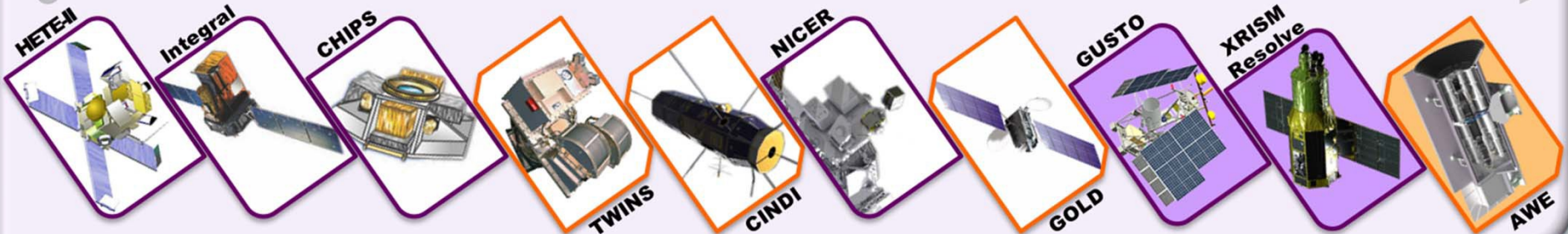
## MIDEX



## SMEX



## UNEX • MO • INTERNATIONALS



 Astrophysics Missions

 Current Astrophysics Missions

 Heliophysics Missions

 Current Heliophysics Missions

# Flight Projects Directorate, Code 400, Organization Chart

**Mission Phase:**  
 Pre-A=Purple  
 A=Red  
 B=Blue  
 C/D=Green  
 E=Brown  
 (Operations)

**FLIGHT PROJECTS DIRECTORATE - Code 400**  
 David Mitchell, Director of  
 Thomas McCarthy, Deputy Director of  
 Wanda Peters, Deputy Director for Planning & Business Management  
 Cathy Peddie – Associate Director  
 Dan Devito – Associate Director for Strategy & Integration  
 Sharon Straka, Special Assistant to the Director  
 Dan Blackwood, Assistant Director  
 Donna Swann, Assistant Director  
 Jerry Esper – Assistant Director for IT

**PROJECT FORMULATION & DEVELOPMENT OFFICE**  
**Code 401**  
 Art Jacques, Associate Director  
 Al Vernacchio, Deputy Chief  
 Kevin Miller (Code 155.0), Dep Prg Bus Mgr

**FPD BUSINESS MANAGEMENT OFFICE**  
**Code 403**  
 Barbara Haskell (Code 155)  
 Resource Management Officer

**RESOURCE ANALYSIS OFFICE**  
**Code 405**  
 Cynthia Fryer, Chief  
 Caleb Noblitt, Dpty Chief

**EARTH SCIENCE TECHNOLOGY OFFICE**  
**Code 407**  
 Pam Millar, Associate Director  
 Robert Bauer, Dpty Prg Mgr

**GOES-R PROGRAM**  
**Code 410**  
 Pam Sullivan (NOAA), Sys Prg Dir  
 Edward Grigsby (NASA), Dpty Sys Prg Dir  
 Monica Todorita (NOAA), Asst Sys Prg Mgr  
 Vacant (Code 155.1), Dep Prg Bus Mgr

-RSDO (401.1)

-GOES-R Ground (416)  
 -GOES-R Flight (417) - GOES-16, 17, GOES-T, U

**EARTH SCIENCE PROJECTS DIVISION**  
**Code 420**  
 Cathy Richardson, Associate Director  
 Richard Carter, Asst Prg Mgr  
 Jahi Wartts (Code 155.2), Prg Bus Mgr

**PLANETARY SCIENCE PROJECTS DIVISION**  
**Code 430**  
 David Mitchell (Acting)  
 Associate Director

**ASTROPHYSICS PROJECTS DIVISION**  
**Code 440**  
 Preston Burch, Associate Director  
 Azita Valinia, Dpty Prg Mgr  
 Chikia Barnes (Code 155.4), Acting Prg Bus Mgr

**JAMES WEBB SPACE TELESCOPE PROJECT**  
**Code 443**  
 William Ochs, Associate Director  
 John Durning, Dpty Prj Mgr  
 Paul Geithner, Dpty Prj Mgr Tech  
 Mark Seidleck (Code 155.5), Dpty Prj Mgr Res

**WIDE-FIELD INFRARED SURVEY TELESCOPE PROJECT**  
**Code 448**  
 Jamie Dunn, Project Manager  
 Tom Griffin, Dpty Prj Mgr  
 Ken Anderson, Dpty Prj Mgr  
 Christine Steeley (Code 155.5), Dpty Prj Mgr Res

-ESMPO  
 -RPPO  
 -POES (421)

-Lucy (434)

-PCOS Program  
 -COR Program  
 -SAT Program

-Athena  
 -LISA  
 -Euclid

-HST Operations (441)  
 -SSMO\*\* (444)

**EXPLORATION & SPACE COMMUNICATION PROJECTS DIVISION**  
**Code 450**  
 Robert Menrad, Associate Director  
 Mark Brumfield, Dpty Prg Mgr/Impl  
 Cathy Barclay, Dpty Prg Mgr/Execution  
 Tracy Felton (Code 155.6), Prg Bus Mgr

**EXPLORERS & HELIOPHYSICS PROJECTS DIVISION**  
**Code 460**  
 Nicholas Christotimos, Associate Director  
 Greg Frazier, Exp Dpty Prg Mgr  
 Michael Delmont, LWS/STP Dpty Prg Mgr  
 Mark Goans, APL Dpty Prg Mgr  
 Joe Burt, Dpty Prg Mgr/Tech  
 Christine Hinkle (Code 155.7), Exp Prg Bus Mgr  
 Pietro Campanella (Code 155.7), Helio Prg Bus Mgr

**JOINT POLAR SATELLITE SYSTEM PROGRAM**  
**Code 470**  
 Greg Mandt (NOAA), Associate Director  
 Timothy Walsh (NOAA), Dpty Prg Mgr  
 Bryan Fafaul (Acting), Dpty Prg Mgr  
 Matt Ritsko (Code 155.1), Prg Bus Mgr

**SATELLITE SERVICING PROJECTS DIVISION**  
**Code 480**  
 Wanda Peters (Acting), Associate Director  
 Benjamin Reed, Dpty Div Mgr  
 Hsiao Smith, Dpty Div Mgr  
 Vacant (Code 155.8), Div Bus Mgr

**INSTRUMENT PROJECTS DIVISION**  
**Code 490**  
 Kenneth Schwer, Associate Director  
 Robert Lilly, Dpty Div Mgr  
 Stephen Schmidt, Dpty Div Mgr  
 Robert White (Code 155.9), Div Bus Mgr

-LOCNESS  
 -NIMO (450.1)  
 -TEMPO (450.2)  
 -SAR (450.3)

-Explorers Program  
 -LWS Program  
 -STP Program

-ICON (460)  
 -SET (460)  
 -PSP (460)

-XRISM (461)  
 -SOC (464)

-JPSS Flight (472) – SNPP, NOAA-20, JPSS-2, JPSS-3, JPSS-4  
 -JPSS Ground (474)

-SSET (480.1)  
 -SSAC (481)  
 -IPO (482)

-Restore-1 (483)  
 -RAVEN  
 -RRM-3

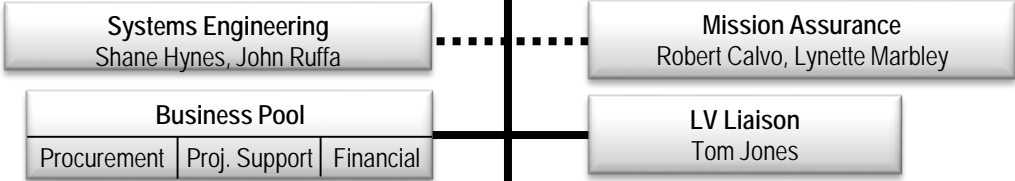
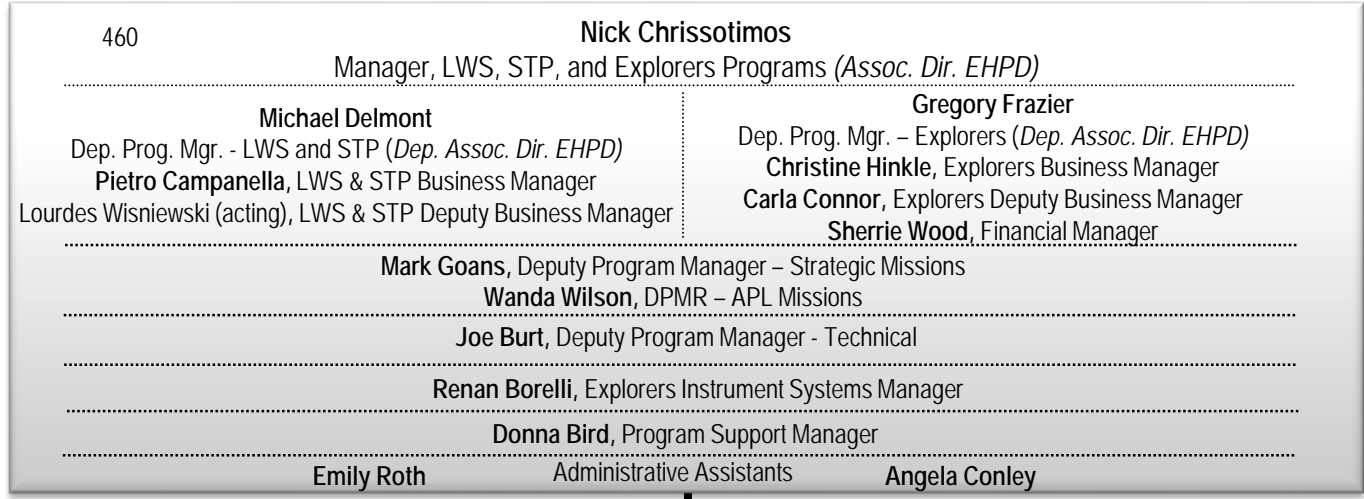
-MOMA-MS (490.1)  
 -Resolve (490.2)  
 -NIRSpec (490.3)  
 -IRMES (492)  
 -LCRD Payload (493)

-L9EFS (496)  
 -OCI (497)  
 -TIRS II (498)  
 -L’Ralph (499)

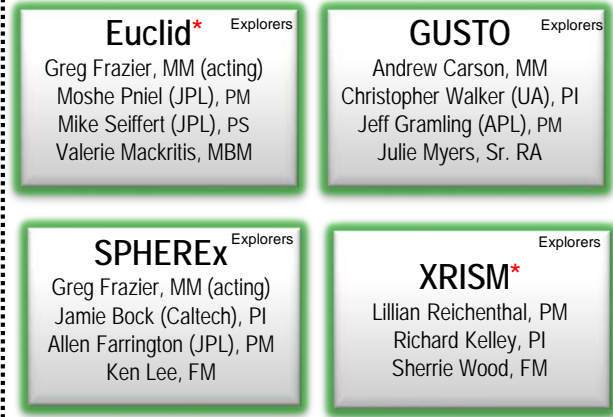
\*AQUA, AURA, GPM, ICESat-2, LANDSAT 7&8, SORICE, TCTE, TERRA, TSIS  
 \*\*ACE, AIM, FERMI, GEOTAIL, IBEX, IRIS, LRO, MAVEN, MMS, OSIRIS-REx, SDO, SOHO, STEREO, SWIFT, TESS, THEMIS, TIMED, VAN ALLEN PROBES, WIND



# GSFC Explorers & Heliophysics Projects Division (EHPD) Organization – Code 460



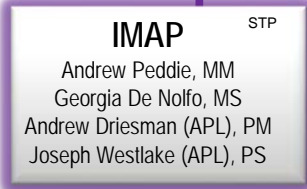
**Explorers/Astrophysics**



**Explorers/Heliophysics**



**STP/Heliophysics**

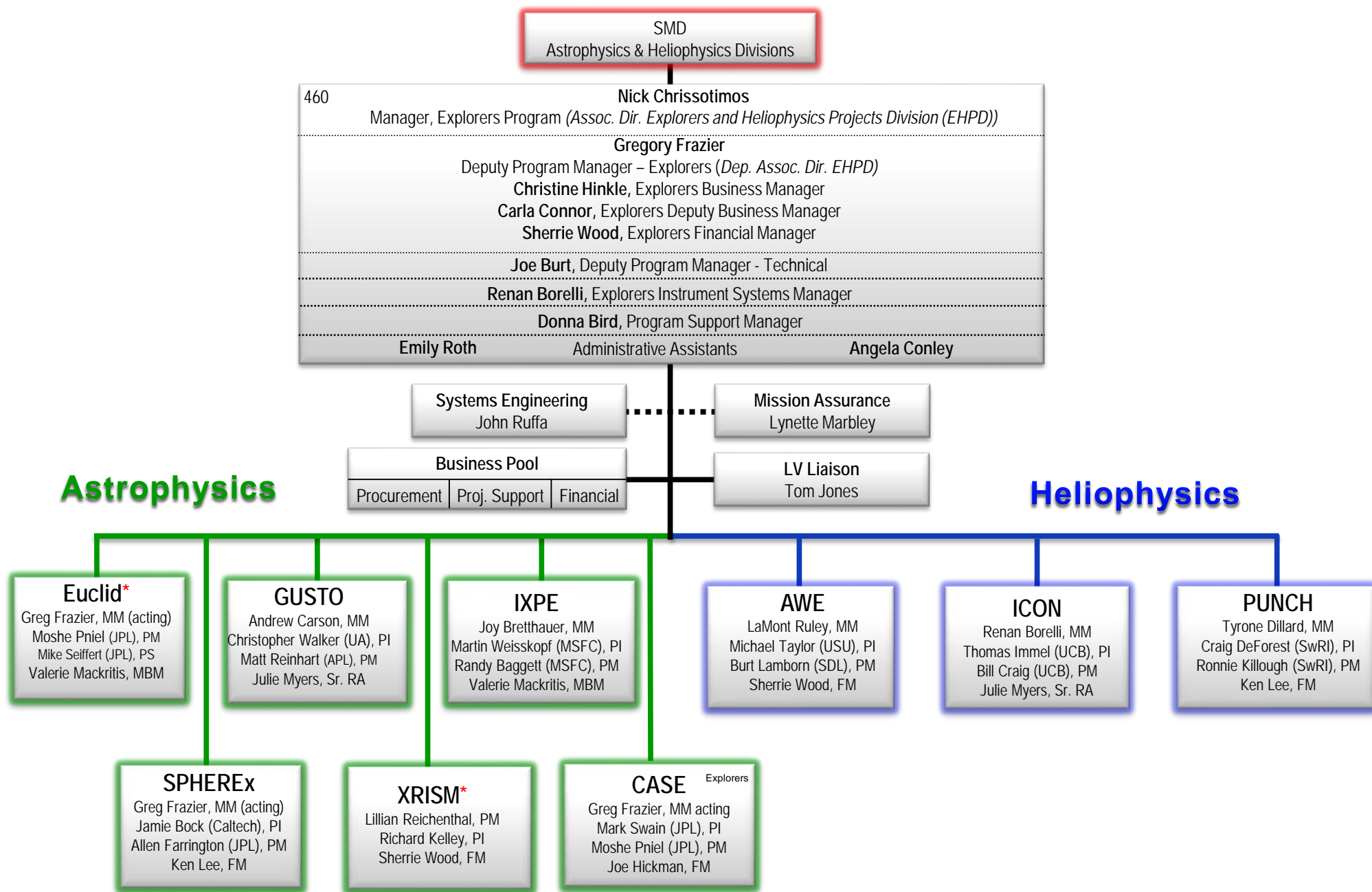


**\*Strategic Missions**

**LWS/Heliophysics**



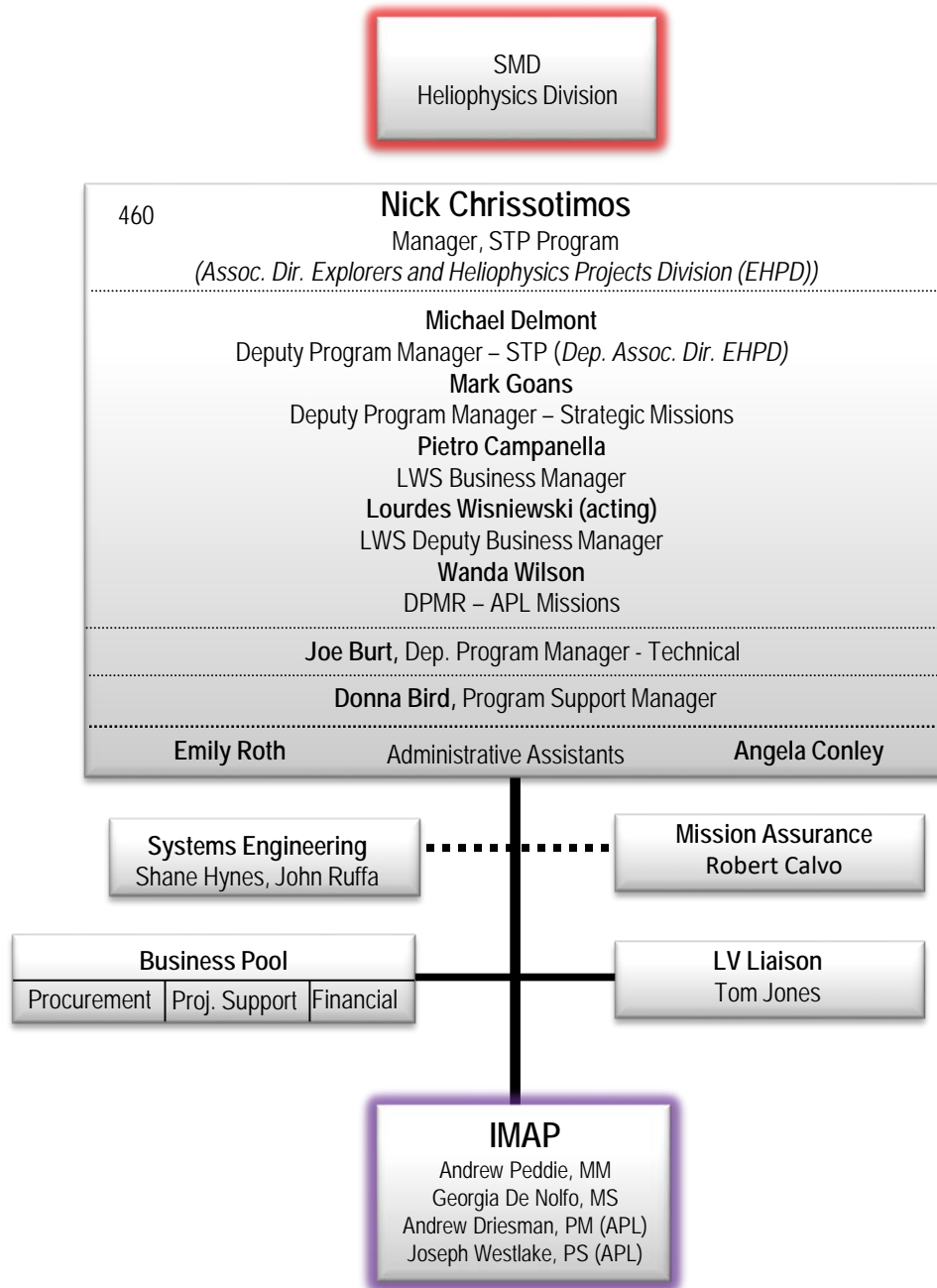
# Explorers Program Organization Chart



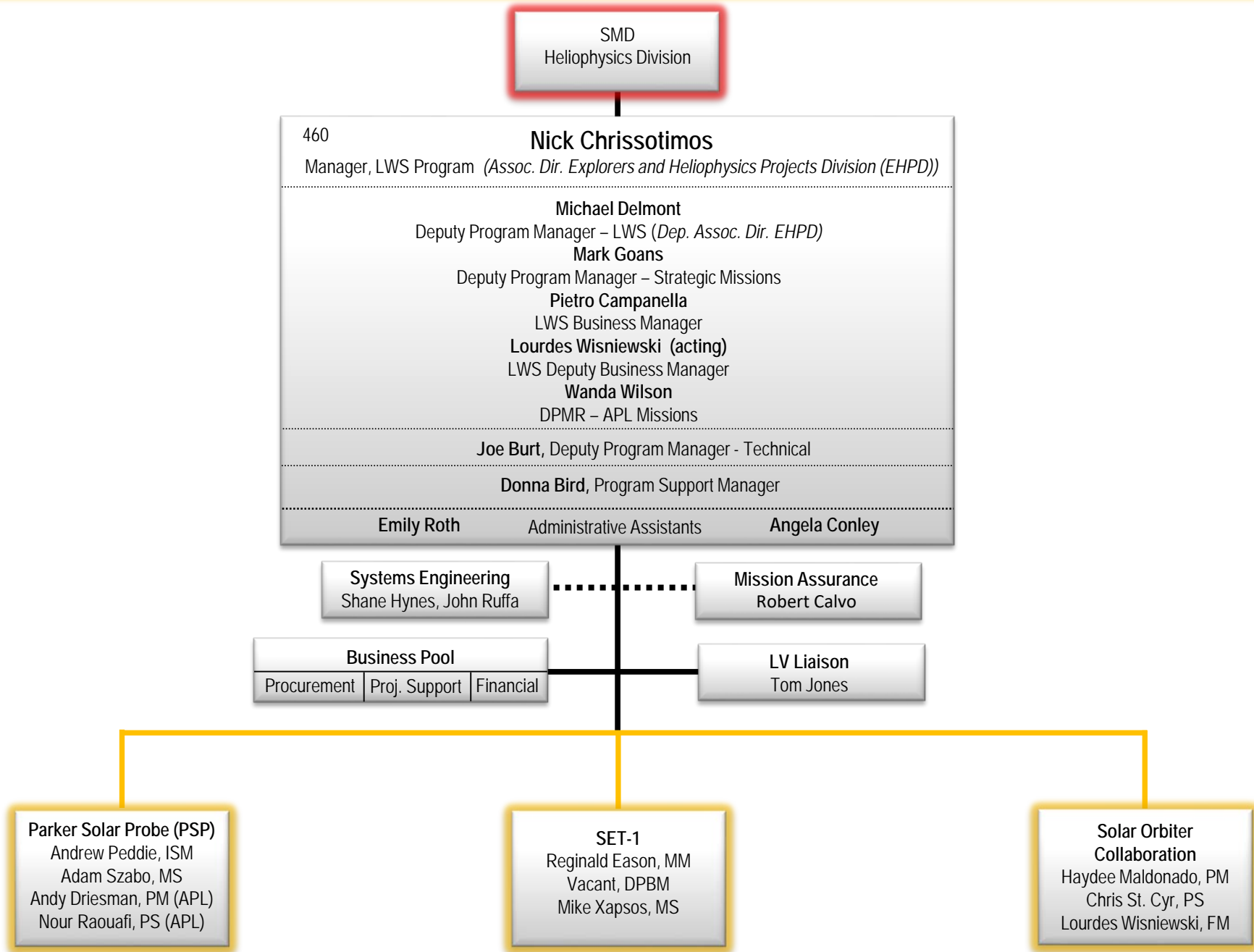
\*Strategic Missions



# STP Program Organization Chart



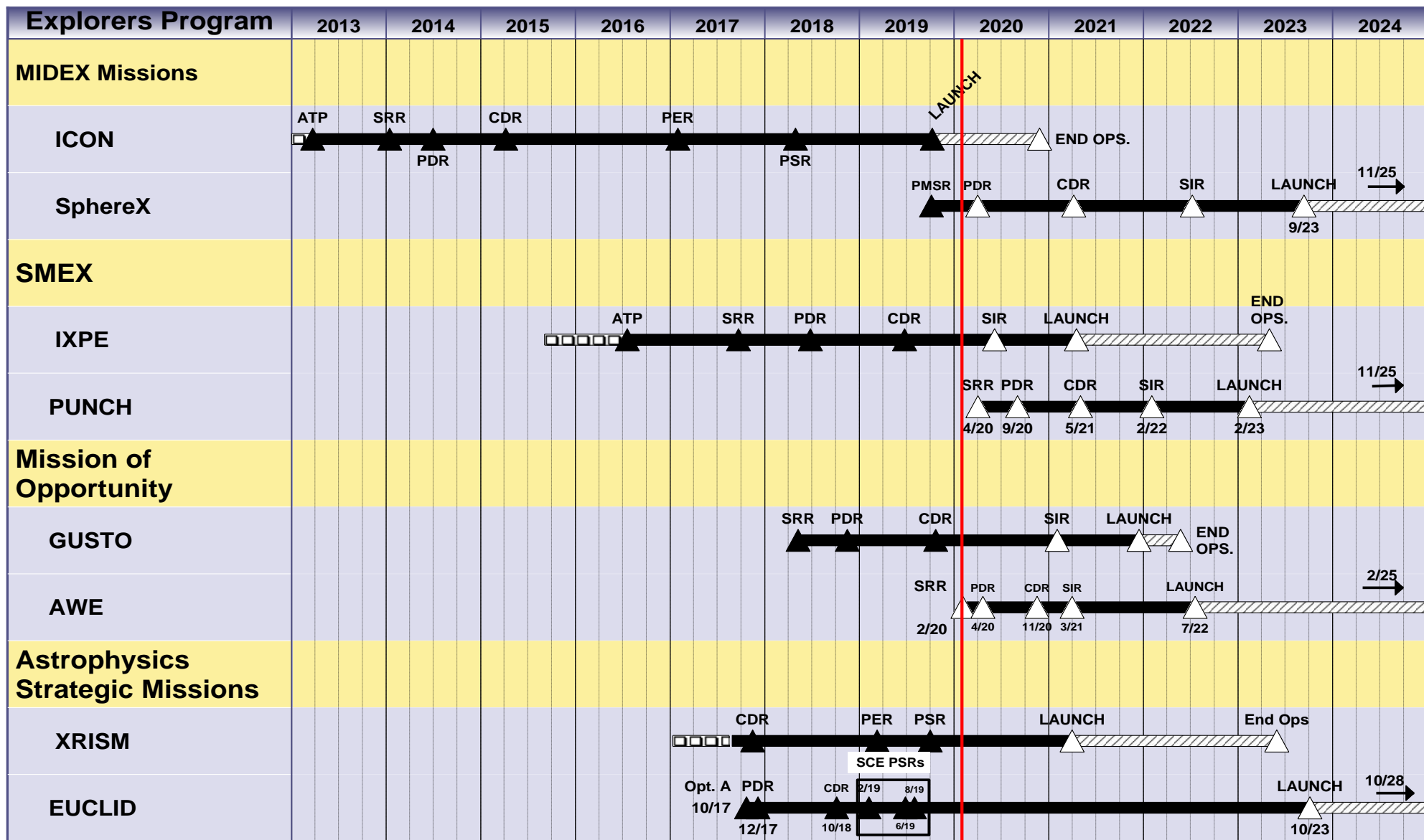
# LWS Program Organization Chart



# Explorers Program – Master Schedule

EXP

1/31/20



— Development

□□□□□□ Study/PreForm/AO

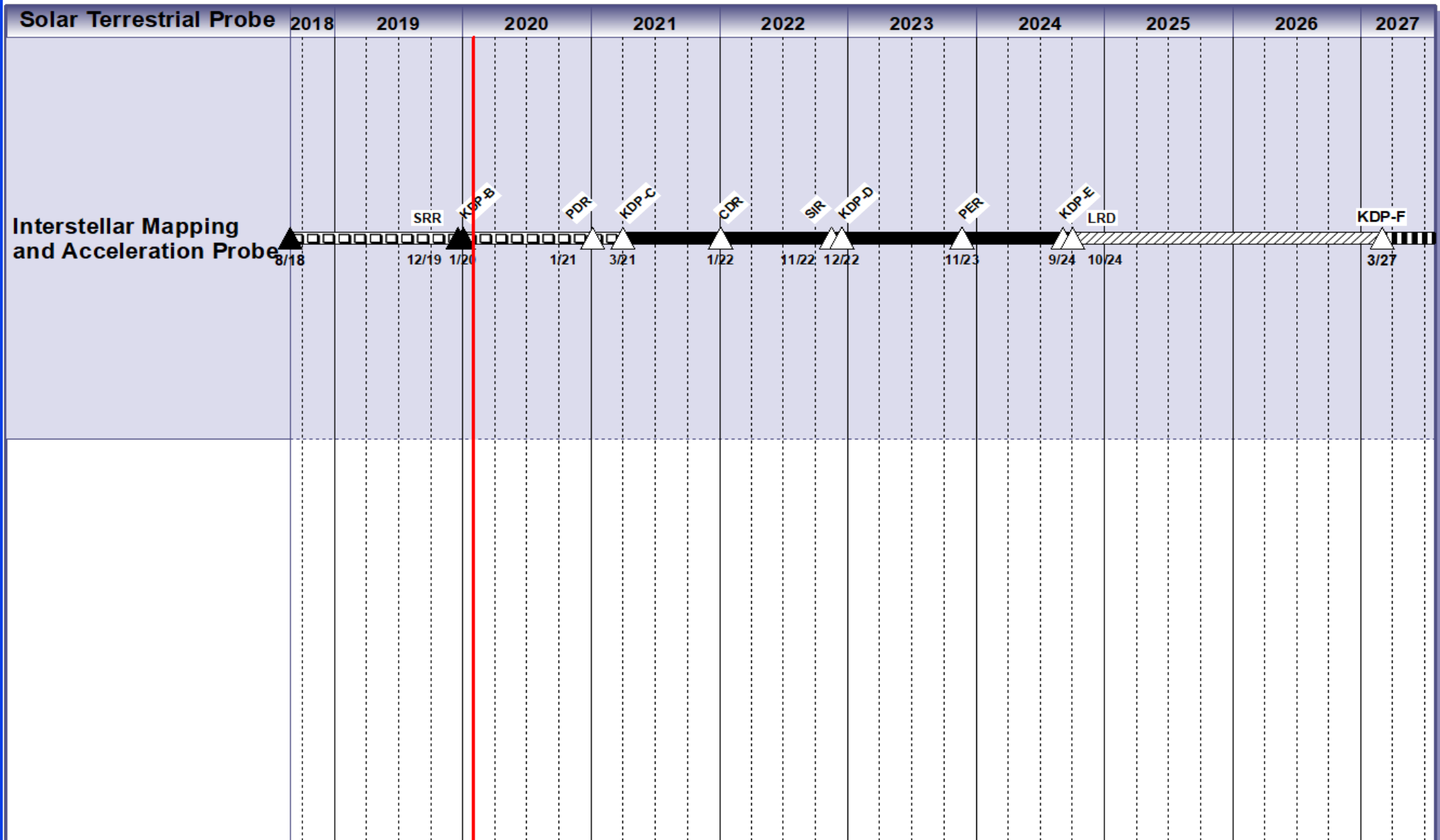
▨ Prime Mission

□□□□□□ Formulation

▬ Data Analysis

# STP Program – Master Schedule

1/31/20

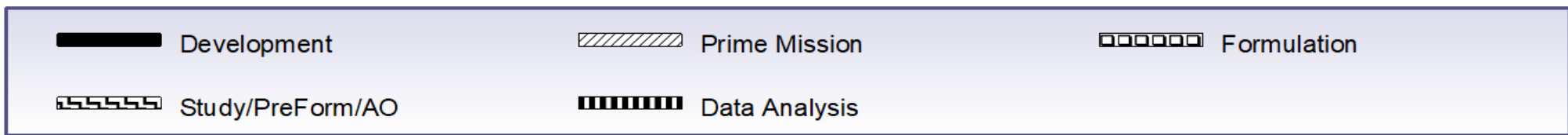
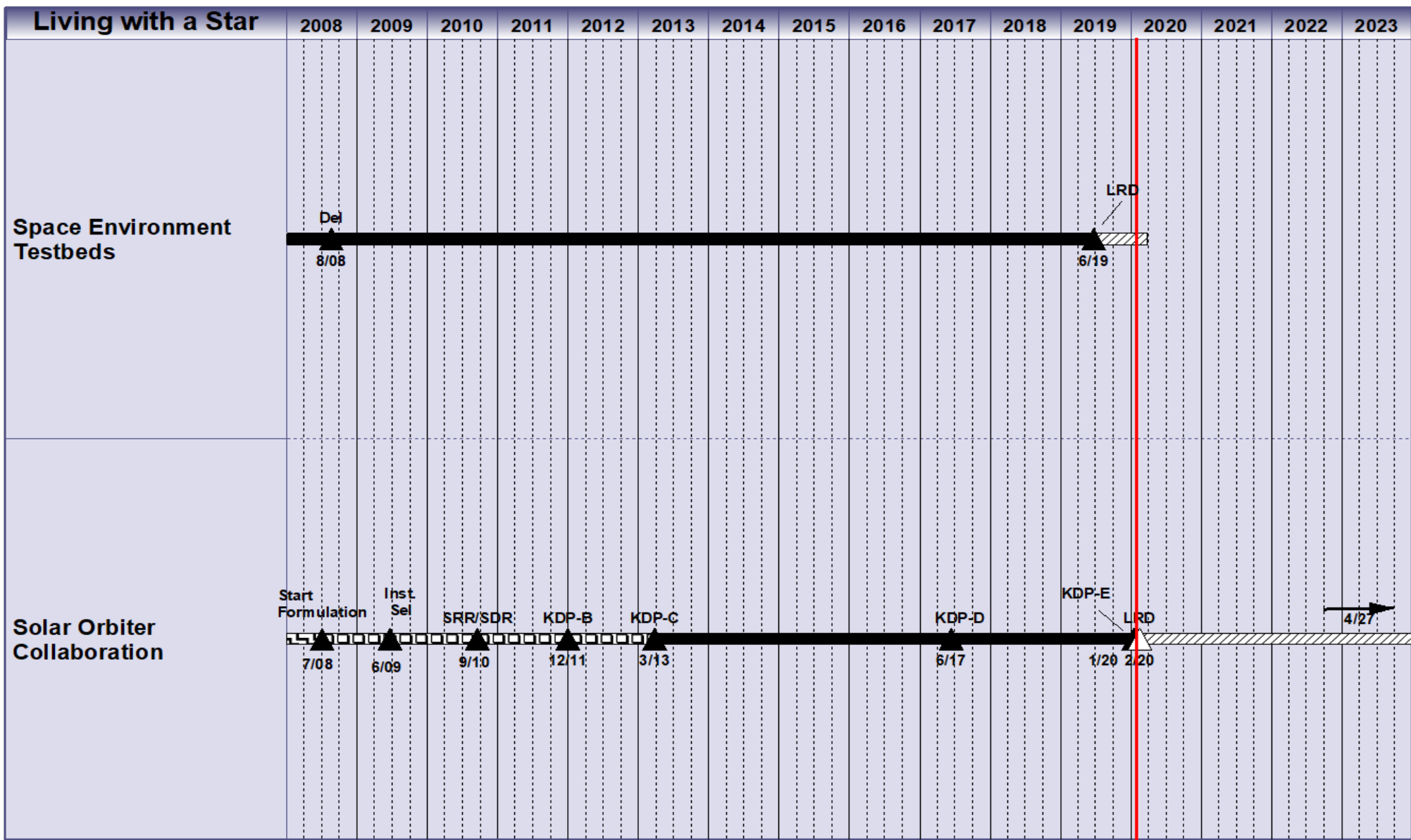


- Development
- Prime Mission
- Formulation
- Study/PreForm/AO
- Data Analysis



# LWS Program – Master Schedule

1/31/20





# Explorers Program Office Roles



1 of 3

- During Phase A
  - Participates in the kick-off meeting and PI Master's Forum
  - Provides funding and support to set up contracts
  - Firewalled from the missions during CSR development
  - Does not evaluate the missions during TMC process
  - Invited as an observer to the plenary sessions and site visits during the TMC evaluations



# Explorers Program Office Roles

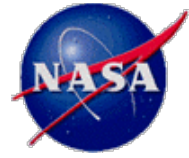


2 of 3

- After Step 2 Selection
  - Provides advocacy for the mission within the Agency and support to the PI to ensure mission success
  - Ensures that the mission complies with all applicable government and NASA-specific policies and regulations.
  - Provides comprehensive oversight of the mission development by conducting ongoing assessments of the mission's cost, schedule, and technical progress
  - Provides mission status and independent assessment to NASA management through monthly reviews, weekly reporting, and timely notification of problems and resolution plans.



# Explorers Program Office Roles



3 of 3

- After Step 2 Selection (continued)
  - Coordinates the provision of all government-furnished services and equipment, such as space communication support, launch services, etc.
  - Provides recommendations for the chair and membership of the standing review board and Goddard system review team (if required). Provides funding for the board/team.
  - Provides technical authority (except for missions implemented at other centers)
  - Appoints a mission manager and resources analyst for missions not managed by GSFC and all missions of opportunity





# Mission Manager Role/Responsibilities

---



- Serves as the Goddard point of contact and the contracting officer's representative for the mission
- Leads the Explorers engineering, mission assurance and business teams in obtaining detailed cost, schedule and technical insight
- Provides specific support functions as required (e.g., launch vehicle interface, ground network interface)
- Helps the mission develop a system review plan that describes the organization and conduct of reviews
- Ensures that adequate government resources are applied to the mission



# Schedule and Risk Management



## Schedule Management

- Importance of detailed schedule development and management early is often overlooked
- Should be developed as soon as possible during Phase B.
- Required for an effective earned value management system.
- It is highly recommended that projects have a dedicated planner/scheduler for the lifecycle of the mission.

## Risk Management

- Establishing a robust risk management process early is crucial
- Mission teams usually hold a Risk Management Board monthly and as needed to identify and manage risks
- The Explorers team should participate in the project RMB, otherwise a separate risk briefing will be required to convey the risk posture of the mission.
- Guidance can be found in NPR 8000.4B, Agency Risk Management Procedural Requirements and GPR 7120.4D, Risk Management



# Mission Assurance

---



- The Program Office owns the mission assurance requirements contained in the Mission Assurance Requirements document:
  - For Astrophysics MIDEX full missions – (Mission Risk Classification – NPR 7120.5 Class C)
  - For Astrophysics and Heliophysics missions of opportunities – (Mission Risk Classification – NPR 7120.5 Class D)
  - For Heliophysics SMEX full missions – (Mission Risk Classification – NPR 7120.5 Class D)
- A draft Mission Assurance Implementation Plan (MAIP) and compliance matrix are required with the concept study report and together should indicate the mission's compliance status on all requirements contained in the MAR.
- During Phase B, the Program Office will review, discuss and negotiate the MAIP to completely understand and agree with the compliance position prior to approving the final MAIP.