PCOS Structure

NASA HQ: Provides programmatic direction and overall guidance to the Program and Project Offices; administers the PCOS budget; solicits and manages calls for technology development, and makes strategic decisions on technology support and implementation; works with the PCOS Chief Scientist to identify, develop, and implement PCOS science goals; oversees the science and technology content of the program ensuring it remains faithful to its mission statement.

Program Director: Andrea Razzaghi
Program Executive: Lia LaPiana
Program Scientist: Rita Sambruna
Deputy Program Scientist: Wilt Sanders

Program Office at GSFC: Reports directly to the Program Director and provides risk-based insight/oversight of the projects during all phases; interfaces with science community; facilitates future mission development; conducts advanced mission concept studies; supports research; identifies and develops enabling technologies; facilitates international partnerships; supports education and public outreach. Interacts on a day-by-day basis with HQ through the PE and PS.

Program Manager: Mansoor Ahmed
Deputy Program Manager: Tom Griffin
Program Chief Scientist: Ann Hornschemeier
Program Deputy Chief Scientist: Alan Smale
Program Chief Technologist: Mark Clampin
Advanced Mission Concepts Chief Technologist: Thai Pham

Upcoming Events

PhysPAG Meeting:

Sunday, January 5, 2014
American Astronomical Society Meeting
Washington, DC
http://pcos.gsfc.nasa.gov/physpag/

PCOS Mini-Symposium:

April 5–8, 2014
"High Energy Astrophysics and Cosmology from Space"
American Physical Society meeting
Savannah, GA

PCOS/PhysPAG Town Hall:

August 17–21, 2014
(Proposed: date/time TBA)
High Energy Astrophysics Division Meeting
Chicago, IL

Next Einstein Fellows Symposium:

October 2014 (date/time TBA)
Smithsonian Astrophysical Observatory
Cambridge, MA

NP-2013-12-094-GSFC

National Aeronautics and Space Administration

Physics of the Cosmos (PCOS) Program

How does the Universe work?

The Physics of the Cosmos (PCOS) Program addresses questions about the origin and evolution of the Universe, the conditions of matter in extreme environments, and the nature of dark energy and dark matter. PCOS supports a vibrant program in both observational and theoretical research, and technology development for future missions.

The PCOS Program Analysis Group (PhysPAG) provides input to the program and includes all interested members of the community. Visit http://pcos.gsfc.nasa.gov/ or http://pcos.gsfc.nasa.gov/physpag/ for more information.

www.nasa.gov

Science Themes:

The Physics of the Cosmos (PCOS) program incorporates cosmology, high-energy astrophysics, and fundamental physics projects aimed at addressing central questions about the nature of complex astrophysical phenomena such as black holes, neutron stars, dark energy, dark matter, and gravitational waves. The ultimate quest is to understand how the Universe works, from the very small to the very large scales.

PCOS maps directly into one of the three Science Objectives identified by the Decadal 2010 report, Physics of the Universe: Understanding Scientific Principles.

PCOS science objectives are to:

- Test the validity of Einstein's Theory of Relativity and investigate the nature of spacetime
- Explore the behavior of matter and energy in its most extreme environments
- Expand our knowledge of dark energy
- Precisely measure the cosmological parameters governing the evolution of the Universe
- Test the inflation hypothesis of the Big Bang
- Uncover the connection between galaxies and supermassive black holes

The Einstein Fellowship

PCOS supports research investigations—theoretical, observational, and instrumental—in science areas closely related to the program themes through Fellowships to young scientists—three years or less after the Ph.D. date.

Scientists apply from institutions worldwide to work in U.S.-based institutions. About 10–15 Fellows are peer-selected each year for a Fellowship tenure of three years each.

See http://cxc.harvard.edu/fellows/ for details. Einstein Fellowship Program Coordinator: Andrea Prestwich, Chandra X-ray Center

How to get involved:

- Program Analysis Groups (PAGs) provide community input to NASA via proper channels.
- PAGs include ALL interested scientists and technologists from the broad community. Everyone is invited to participate in the PAGs' yearly meetings and to contribute to the discussion.
- PAGs conduct trade studies via their Science Interest Groups. These are used as guidelines by NASA to plan for future investments. Your input matters to NASA!
- PCOS PAG: PhysPAG pcos.gsfc.nasa.gov/physpag/
  Cosmic Origin PAG: COPAG cor.gsfc.nasa.gov/copag/
  Exoplanet PAG: ExoPAG exep.jpl.nasa.gov/exopag/

PhysPAG:

Executive Committee

Coordinates the PhysPAG activities; organizes annual meetings; coalesces input from SIGs to be transmitted to NASA via the NAC's Astrophysics subcommittee.

- John Nousek (PSU), Chair
- Jay Bookbinder (CfA)
- Shaul Hanany (University of Minnesota)
- Guido Mueller (University of Florida)
- Jason Rhodes (JPL)
- Liz Hays (NASA/GSFC)
- Angela Olinto (University of Chicago)

Additional members will be appointed in early 2014

PhysPAG Science Interest Groups:

Inflation Probe (Lead: Shaul Hanany): Coordinate community activities and preparations for a future cosmic microwave background polarization mission.

Gravitational Waves (Lead: Guido Mueller) Coordinate community activities and preparations for a future gravitational wave mission.

X-rays (Lead: Jay Bookbinder) Coordinate community activities and preparations for a future X-ray astronomy mission.

Gamma Rays (Lead: Liz Hays) Coordinate community activities and preparations for a future gamma ray astronomy mission.

Cosmic Rays (Lead: Angela Olinto) Coordinate community activities and preparations for a future cosmic ray astronomy mission.