

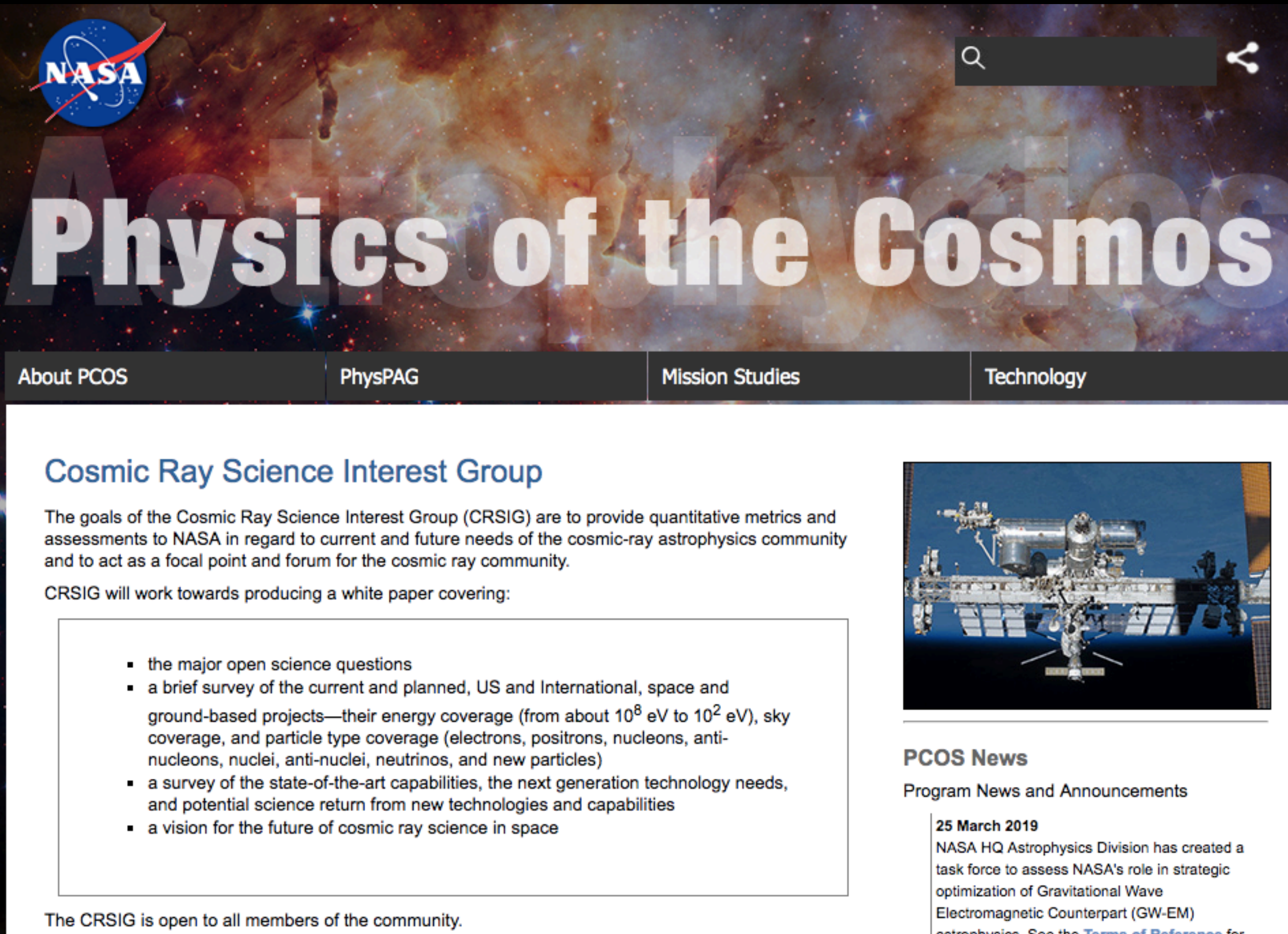
# CR-SIG: Open business and discussion

Abigail Vieregg (UChicago), Marcos Santander (UAlabama)

APS April 2019 meeting - CR-SIG Mini-symposium



# CR-SIG: cosmic ray science interest group



The screenshot shows the NASA Physics of the Cosmos website. The header features the NASA logo and the text "Physics of the Cosmos". Below the header is a navigation menu with links for "About PCOS", "PhysPAG", "Mission Studies", and "Technology". The main content area is titled "Cosmic Ray Science Interest Group" and includes a description of the group's goals, a list of topics to be covered in a white paper, and a "PCOS News" section with a recent update from March 2019. A sidebar on the right contains an image of the International Space Station.

**Cosmic Ray Science Interest Group**

The goals of the Cosmic Ray Science Interest Group (CRSIG) are to provide quantitative metrics and assessments to NASA in regard to current and future needs of the cosmic-ray astrophysics community and to act as a focal point and forum for the cosmic ray community.

CRSIG will work towards producing a white paper covering:

- the major open science questions
- a brief survey of the current and planned, US and International, space and ground-based projects—their energy coverage (from about  $10^8$  eV to  $10^{22}$  eV), sky coverage, and particle type coverage (electrons, positrons, nucleons, anti-nucleons, nuclei, anti-nuclei, neutrinos, and new particles)
- a survey of the state-of-the-art capabilities, the next generation technology needs, and potential science return from new technologies and capabilities
- a vision for the future of cosmic ray science in space

The CRSIG is open to all members of the community.

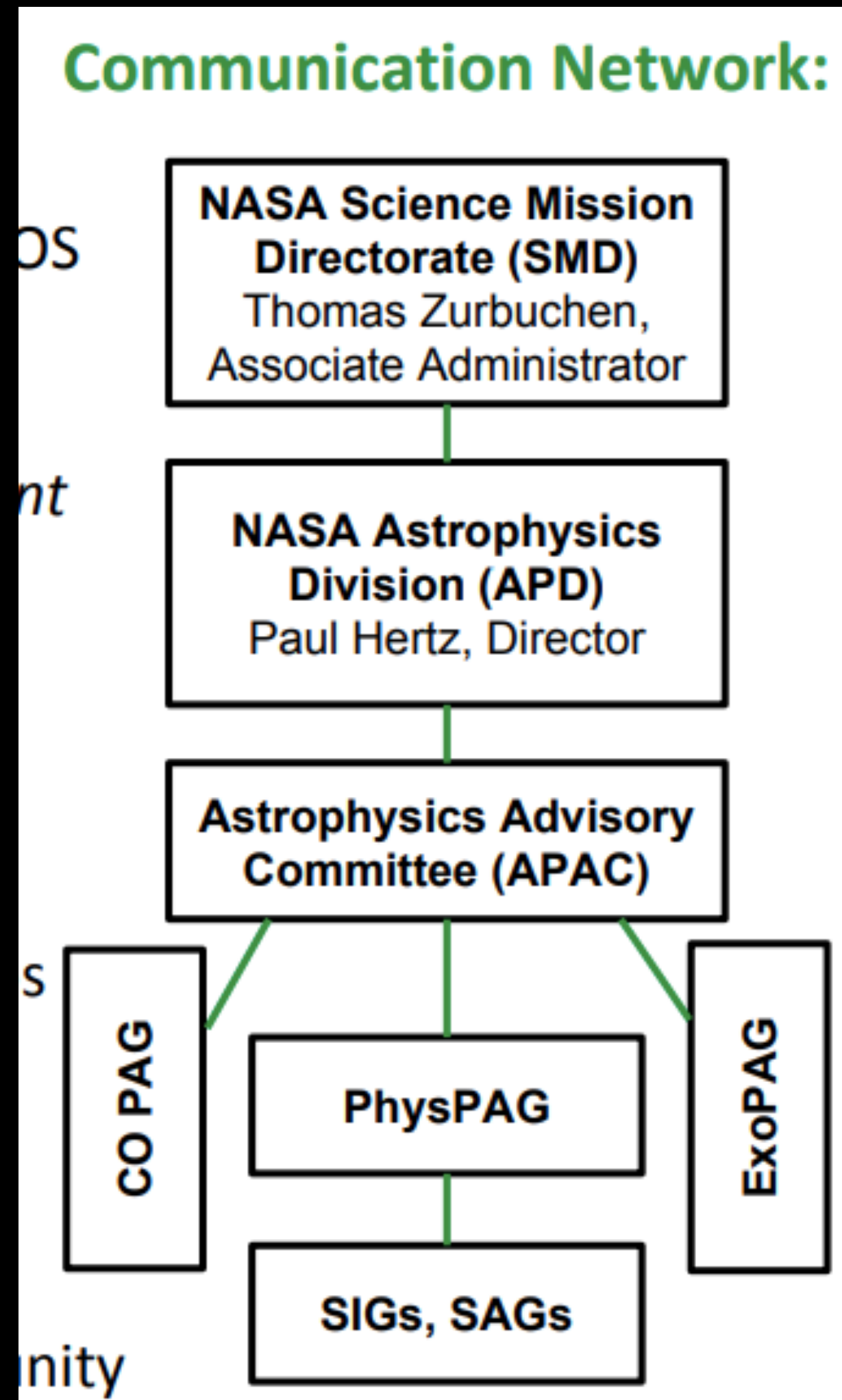
**PCOS News**  
Program News and Announcements

**25 March 2019**  
NASA HQ Astrophysics Division has created a task force to assess NASA's role in strategic optimization of Gravitational Wave Electromagnetic Counterpart (GW-EM) astrophysics. See the [Terms of Reference](#) for

- From our webpage
  - The goals of the Cosmic Ray Science Interest Group (CRSIG) are to provide quantitative metrics and assessments to NASA in regard to current and future needs of the cosmic-ray astrophysics community and to act as a focal point and forum for the cosmic ray community.
- Join our **mailing list!** (info in the webpage)
- Chairs: **Abigail Vieregg** (U Chicago), **Jim Beatty** (OSU), **Marcos Santander** (U Alabama)

- <https://pcos.gsfc.nasa.gov/sigs/crsig.php>

# Community input



From Terri Brandt

- Provide input to NASA relevant to the Physics of the Cosmos program.
- **We want to hear from you:**
  - What have you found useful? SIGs / SAGs? Professional discussions? White paper preparation?
  - What would you like to see more/less of?
  - What do you need from NASA?
  - What are your concerns?
- You can reach the chairs via email, come talk to us!

# Astro2020 White papers

- About ~600 white papers were submitted by the community to the Astro2020 decadal call.
- Submitted white papers are available in the NASEM Astro2020 webpage: [http://sites.nationalacademies.org/SSB/CurrentProjects/SSB\\_185159](http://sites.nationalacademies.org/SSB/CurrentProjects/SSB_185159)
- About 16 white papers with connections to cosmic rays / astroparticle physics.

# Astro 2020

Decadal Survey on Astronomy and Astrophysics

The National Academies of  
SCIENCES  
ENGINEERING  
MEDICINE



## Physics of the Cosmos & PCOS Program Analysis Group Town Hall

Saturday, 13 April 2019, 3:30 P.M., Mountain Daylight Time (Denver, GMT-06:00)

**Co-Chairs:** John W. Conklin (U. Florida) and Graça Rocha (JPL)

**Room:** Sheraton Governor's Square 17

### Agenda (Preliminary)

3:30 PM–4:06 PM	<b>Review of NASA Decadal Activities and why Physicists should care</b> Rita Sambruna
4:06 PM–4:42 PM	<b>Presentation on Astro 2020 Decadal</b> Fiona Harrison (Astro 2020 Co-chair)
4:42 PM–5:18 PM	<b>NASA Astrophysics, the PCOS Program Office, and PhysPAG</b> Paul Hertz (NASA Astrophysics Division Director)

### WebEx

**Meeting number (access code):** 909 629 360

**Meeting password:** Aps2019!

When it's time, [join the meeting](#).

**Join by phone:** +1-415-527-5035, US Toll

# White papers

## Cosmic ray composition, spectrum and anisotropy

- [High-Energy Galactic Cosmic Rays](#) (Schroeder et al)
- [Ultra-high energy cosmic rays](#) (Sarazin et al)
- [Ultra-heavy CRs](#) (Binns et al)
- [TeV-PeV cosmic rays](#) (Fraija et al)

## Cosmic rays as probes of new physics

- [CR antinuclei and DM](#) (Perez et al)

## Astrophysics and cosmic ray sources, connections with gamma rays and neutrinos

- [Galactic PeVatrons](#) (Cristofari et al.)
- [Cosmic rays in the ISM + MeV gamma rays](#) (Orlando et al)
- [TeV halos in PWNe and the positron excess](#) (Di Mauro et al)
- [Astrophysics with neutrinos](#) (Vieregg et al)
- [Solar gamma rays](#) (Mehr et al)
- [AGN studies with neutrinos / CR sources](#) (Santander et al).
- [Cosmic accelerators: CRs + gammas](#) (Holder et al)
- [Galactic accelerators](#) (Venters et al)
- [Extragalactic accelerators](#) (Venters et al)
- [CR sources and gamma rays](#) (Ojha et al)

**Did we miss any?**