Standing Committee for Science Priorities (CSP) status

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Chair of the IVOA Committee for the Science Priorities

The CSP of the IVOA

Who is in the CSP?

- Members of the science community and active astronomy projects.

Members

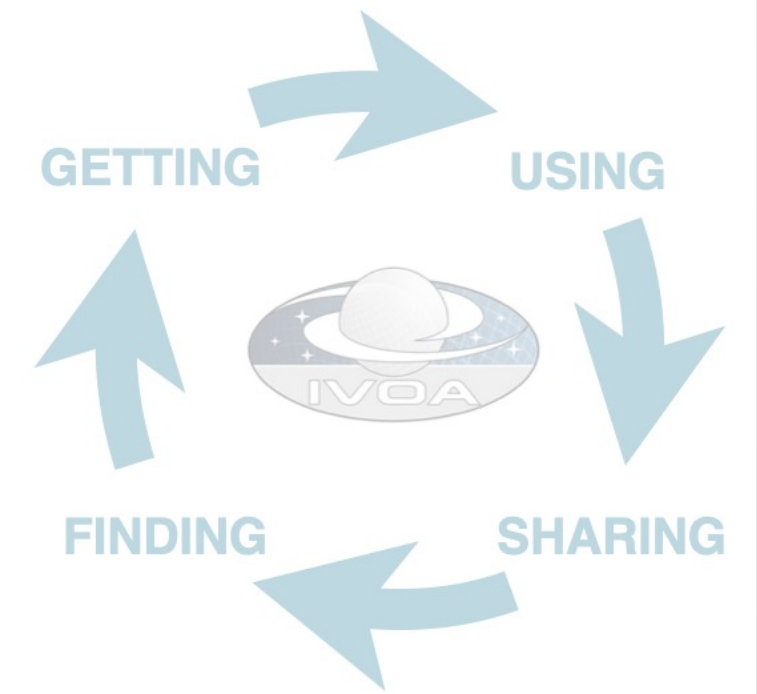
- Members: Mark Allen, Chenzhou Cui, Raffaele D'Abrusco, Gregory Dubois-Felsmann, Janet Evans, Pepi Fabbiano, Minh Huynh, Mark Lacy, Marco Molinaro, Ada Nebot, Kai Lars Polsterer, Judy Racusin, Enrique Solano, Rachana Bhatawdekar and Rosie Bolton
- Chairs: Francesca Civano (chair), Vandana Desai (vice-chair)

http://ivoa.net/twiki/bin/view/IVOA/IvoaSciencePriorities

Goal of the CSP

What are the goals of the CSP?

- Sustain the scientific impact of the VO as an interoperable ecosystem to support science
- Ensure continuous engagement of the international astronomical community



Community

The astronomy community comprises missions that are active or under development, operating observatories, astronomical archives, and teams of astronomers performing research and disseminating data products to the community.

Activities of the CSP

Recommend scientific priorities and scientific requirements

- Driven by scientific use cases that are developed in cooperation with the scientific community.
- Will influence the development of new protocols which will be developed by the IVOA and coordinated by the TCG

Ensure community engagement

- Encourage engagement, adoption and feedback of implementations by the international astronomical community
- Support VO members in developing tutorials, technical and scientific workshops and scientific training materials.

Important considerations

- Identify the current main science cases in the community
- Engage with large and small projects
- Ensure IVOA is building standards, data models and provide coordination and information to those groups building tools and services responding to these science cases
- Ensure right balance for these standards
  - Not too generic, not too specific
  - Implementable standards, while not too simplistic
  - Need for new standards, or updating existing standards
  - Addressing new data types, new areas in astronomy

Activities since the last Interop

- No activities in Goerlitz ☹

- 2025 Spring Interop at UMD: Data management challenges and solutions focusing on recent and upcoming missions and how IVOA can be a resource
  - **Missions**: Euclid, Roman, SPHEREX and COSI
  - 4 speakers and nice discussion with further discussion of topics within the WG

- CSP virtual meeting in Feb 2026 (70% attendance)
  - CSP membership:
    - Interest Group chairs involvement in the CSP
    - New members close to projects not included already in IVOA
  - IVOA advocacy
  - Topics for plenaries at the Interop

Sessions at this meeting: Science Platforms Plenary

on Tuesday!!

- **Speakers**: Fornax, CANFAR, China-VO Science Platform and ESA Datalabs and the Euclid Data Space
- Where do current IVOA standards and data formats fall short for science platforms, including gaps related to workflows, compute, or authentication/authorization?
- What are the challenges to interoperability between science platforms? What makes it difficult for users to move workflows, data, or analysis patterns between platforms?
- What can IVOA do to better support science platforms?

Sessions at this meeting: Plenary on AI

on Wednesday!!

- Session focused on the growing role of Artificial Intelligence in astronomical data analysis and archiving: how teams are actually integrating AI with archives and data pipelines and repositories.
- **The Successes:** What is working well? Where is AI successfully driving progress and efficiency in data analysis.
- **The Data-Centric Obstacles:** What are the practical hurdles teams face when applying AI to archival data, including challenges regarding metadata, data provenance, data structures, and formats.
- 6 speakers – 4.5 are newcomers to IVOA!

Sessions at this meeting: DAL+DM+CSP session

on Thursday!!

- Session focused on **spectral services and formats** and the needs emerging from large spectral datasets
  - Large spectra collections/datasets
  - Bulk query services and efficient bulk data formats
- Prompted by conversations within the CSP, and members of the astrophysics community at large.
- This session will frame the need for scalable spectral standards and explore concrete use cases and candidate approaches from HATS, SPHEREx, DESI, and related efforts, with the goal of identifying common requirements and discussing possible paths forward