

State of ADS

Jennifer Lynn Bartlett and the ADS Team

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[@adsabs](https://twitter.com/adsabs)

16 Nov 2023 | ADS Users Group

CENTER FOR

ASTROPHYSICS

HARVARD & SMITHSONIAN





astrophysics data system

Dr. Jennifer Lynn Bartlett



Jennifer Lynn Bartlett is the ADS project scientist for astrophysics. She joined the team in 2023.

After obtaining her doctorate in astronomy from the University of Virginia in 2007, she joined the US Naval Observatory. Until 2021, she was chief of the Software Products Division producing astrometric libraries and applications. From 2021–2023, she accepted a rotation as Kinnear Chair to teach physics and astronomy at the Naval Academy. She also co-authored one popular book on planetary science. Because of her passion for the history of astronomy, she is the chair of the American Astronomical Society's Working Group on the Preservation of Astronomical Heritage.

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Overview

- Project Funding
- ADS Staffing
- Programmatic Goals for FY24 & FY25
- Review of 2022 ADSUG Recommendations

Project Funding

March 2021: ADS baseline funding set by NASA Astrophysics Division

- Five-year cooperative Agreement started on March 1, 2021
- Funds ADS at optimal levels with a staff of 16 FTEs

May 2021: Augmentation for Planetary Science and Heliophysics

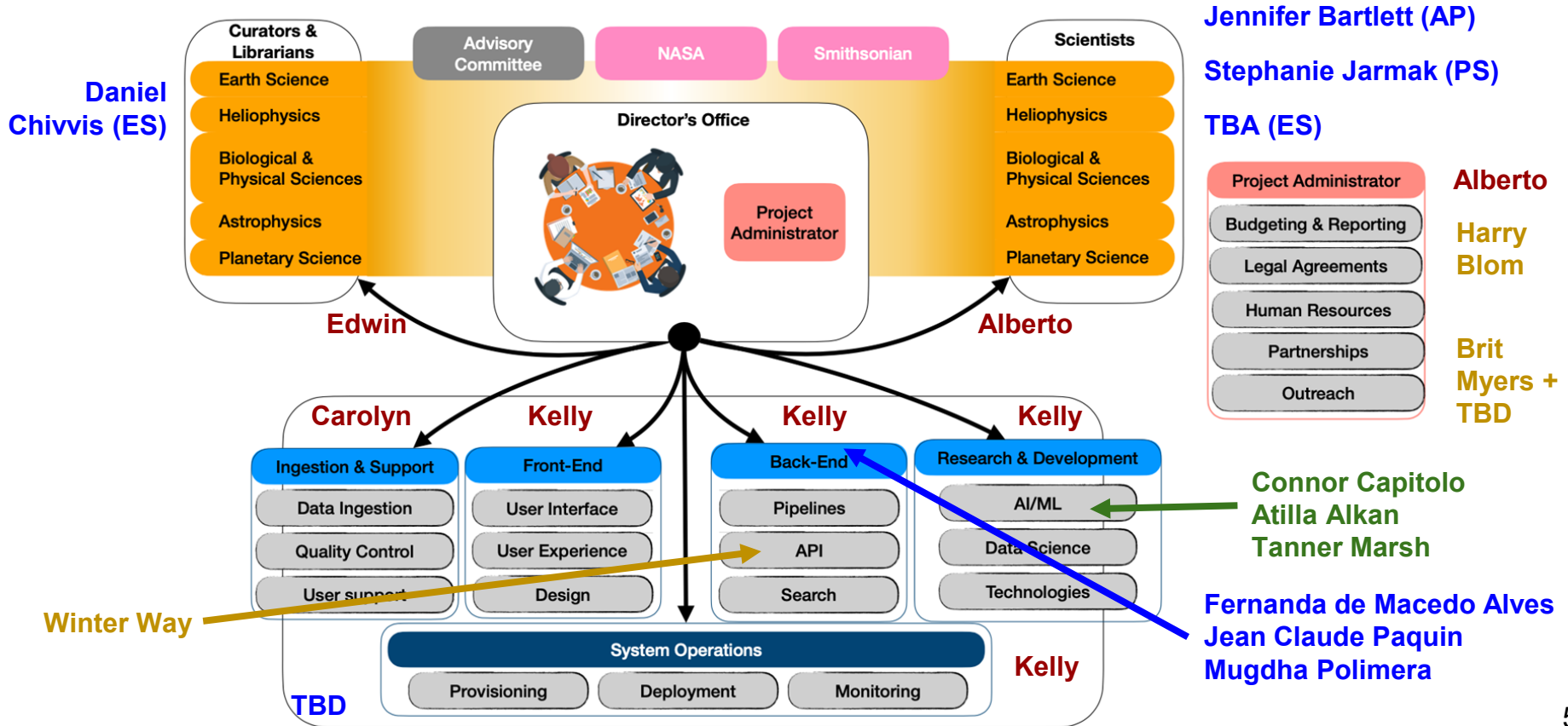
- Adds 3 FTEs, expands scope of ADS's content and user base
- 15-month effort, includes request to develop larger plan for SMD

Sep. 2022: Augmentation for Earth and Biological and Physical Sciences

- 3.5-year plan with incremental staff increases
- Retains 3 FTEs increment for PS and HP, adds 4 FTEs in FY23
- Increases overall staffing to 16 FTEs over "baseline ADS" by 2026
- Ultimate goal is to serve all of NASA SMD's disciplines

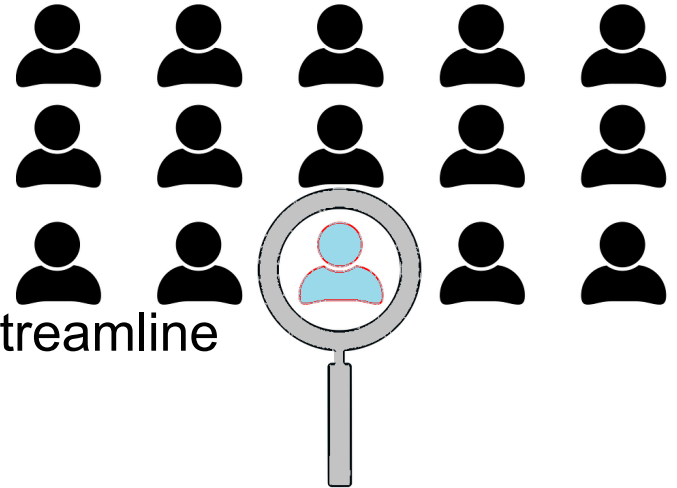
February 2024: Senior Review

Organization (leads employees consultants students)



Advertise recruitment as broadly as possible

- 2/3 Project scientists filled, 1 offer pending
 - Familiar outlets for astrophysics, planetary science
 - Less aware of geoscience networks
- 4/5 Developers filled
- CfA improving institutional processes to streamline hiring and onboarding



2022 ADSUG Recommendation

Allow staff to work remotely

Allow non-CfA project scientists

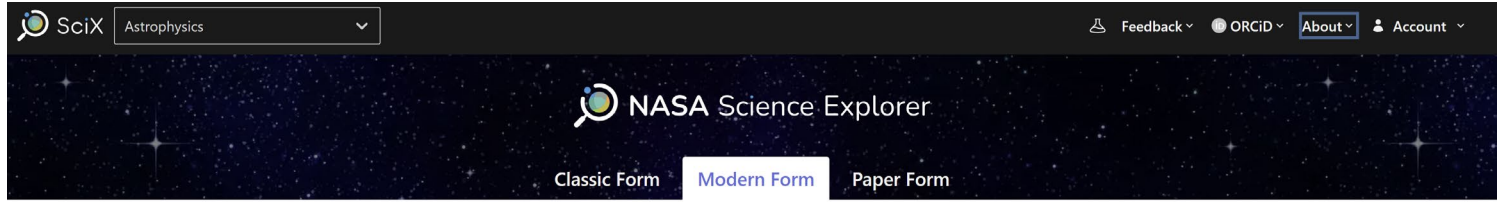
- CfA rules prohibit additional remote hires
 - Local staff option of 3 days/week onsite
 - 3 project scientists are local
 - ~7 full-time remote employees grandfathered
- Contractors still can be remote
 - ~ 2 part-time, remote:
journal liaison, community engagement

2022 ADSUG Recommendation



Program Accomplishments FY 2023

- ✓ **Data Holdings:** Developed reporting system and metrics to evaluate coverage levels for astronomy and other disciplines
- ✓ **Content Expansion:** Planetary and heliophysics collections are current and over 90% complete
- **User Support and Outreach:** Participated in AAS, DPS, & AGU meeting and performed user testing with 50 astronomers
- **Metadata Enrichment:** working on a number of ML activities:
 - ✓ Published astronomy-specific language models and training datasets for named entity recognition and citation context analysis (<https://huggingface.co/adsabs>)
 - Participating in NASA efforts to build Large Language Models
 - Working on a document classifier to enhance new content ingestion



User Interface:
Launch β -Nectar at AGU 2023 Fall Meeting, prioritizing accessibility & speed of access

QUICK FIELD: [author](#) [first author](#) [abstract](#) [year](#) [fulltext](#)

Search...

Search Examples

author	author:"huchra, john"	citations	citations(abstract:JWST)
first author	author:"^huchra, john"	refereed	property:refereed
abstract+title	abs:"dark energy"	collection	collection:astronomy
year	year:2000	exact search	=body:"reproducibility"
year range	year:2000-2005	institution	inst:NASA
full text	full:"super Earth"	record type	doctype:software
publication	bibstem:ApJ		

Data Holdings: Improve coverage (metadata, full text, references, data, software) across all disciplines, update publisher agreements

User Support and Outreach: Re-energize multi-platform community engagement, and initiate program to improve inclusion & accessibility

Project Goals for FY2024-25



```
function(b, c) {
  var d = a(C.c.form.querySelectorAll('input[type=checkbox][name=' + b.el.name + '][type=' + b.el.type + ']').length;
  if (0 === d.index(b.el)) {
    var e = d.filter(':checked').length;
    return e >= b.arg || g.minChecked.replace('{count}', b.arg)
  }
},
maxSelected: function(a) {
  return null !== a.val ? a.val.length <= a.arg || g.maxSelected.replace('{count}', a.arg) : null
},
minSelected: function(a) {
  return null !== a.val && a.val.length >= a.arg || g.minSelected.replace('{count}', a.arg)
},
radio: function(b) {
  var c = a(this.form.querySelectorAll('input[type=radio][name=' + b.name + '][type=' + b.type + ']').length;
  return 1 == c
},
custom: function(a, b) {
  var c = b.options.custom[a.arg],
      d = new RegExp(c.pattern);
  return d.test(a.val) || c.errorMessage
},
remote: function(a) {
  a.remote = a.arg
}
};
b = function(b, c) {
  this.handler = !1, this.options = a.extend(10, {}, b, c), this.form = b, this.el = c, this.remote = !1;
  b.prototype = {
    constructor: b,
  }
}
```

tookapic via Pixabay

System Architecture:

updating back-office & cloud infrastructure (storage layer, workflow engine, data schemas, disaster recovery)

Back-office Updates:

modernizing back-office components (identifiers, harvesting pipelines, reference resolver, curation workflows)

AI/ML Efforts: continuing language model projects with NASA partners & CS community; collaborating on bibliography tools

Integrate AI aware labelling tools within search

Coming this year

- Assigning Unified Astronomy Thesaurus (UAT) keywords
- Tagging papers with planetary feature names
- Automated assignment of papers to collections
- User feedback accepted

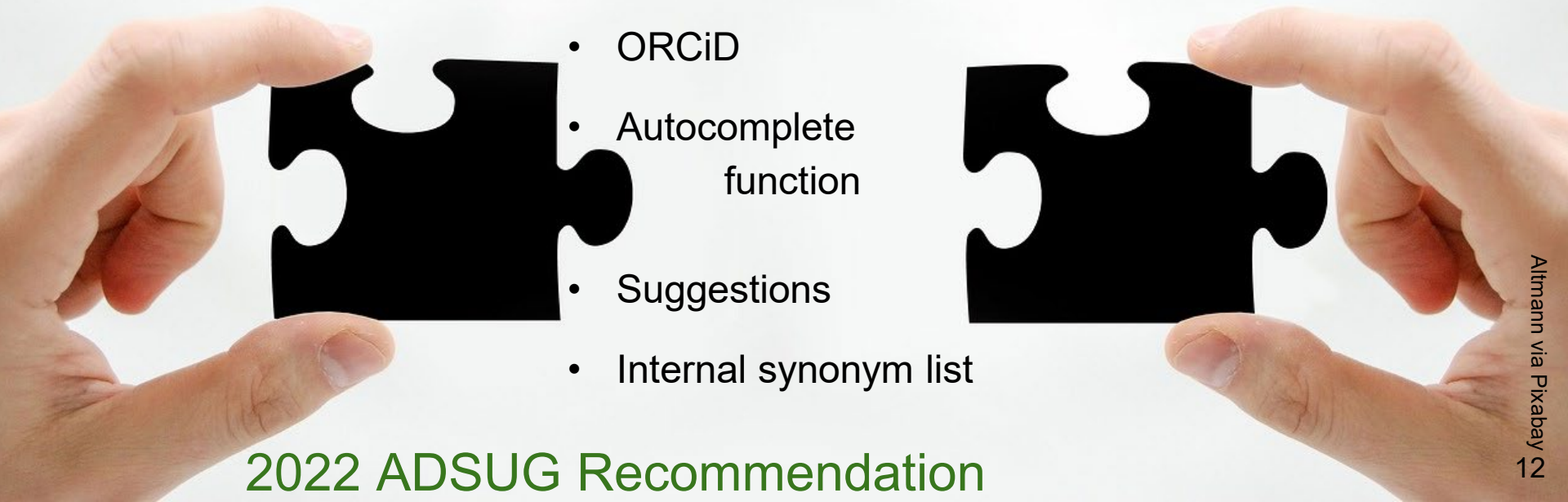


2022 ADSUG Recommender

Investigate how to handle joint-first author papers

Investigate how to expand name synonym support

- Recently hired search engine developer
- Joint authorship requires consistent publisher metadata
- Ideas for names



- ORCID
- Autocomplete function
- Suggestions
- Internal synonym list

Schedule termination of legacy systems

Replace legacy code in context of expansion

Scan Explorer Return to ADS

QUICK FIELD: Publication Article Page type Content All search terms

bibstem:ApJ volume:333

Your search returned 118 articles

Articles Collections Pages

Download bibcode

- A Near-Infrared and Optical S...**
1988ApJ...333...1M
13 pages
McAlary, Christopher W., Rieke, G...
- Late-Time Neutron Diffusion a...**
1988ApJ...333...14M
7 pages
Malaney, Robert A., Fowler, Willia...
- Constraints on the Biasing of ...**
1988ApJ...333...21S
3 pages
Szalay, Alexander S.

✓ Classic doc matching terminated

○ Reference resolver is in testing

○ Scan explorer is being scaled for production

○ 2024 Q1: Updated parsers covering 90% records will be in production

Use contract IT labor where appropriate

Winter Way
continues its support
currently redesigning
fundamental web
services



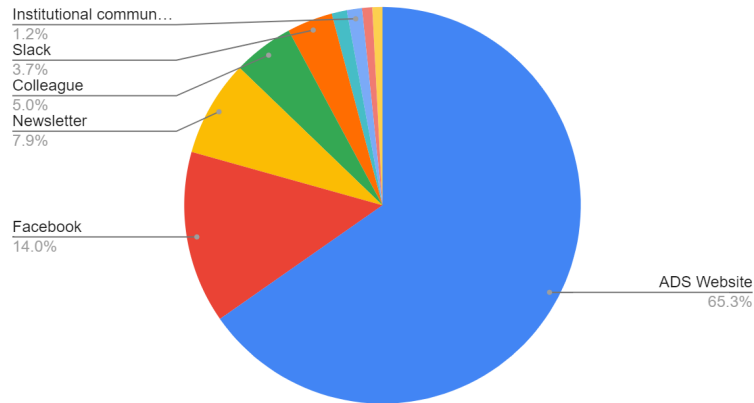
Hassan via Pixabay

2022 ADSUG Recommendation

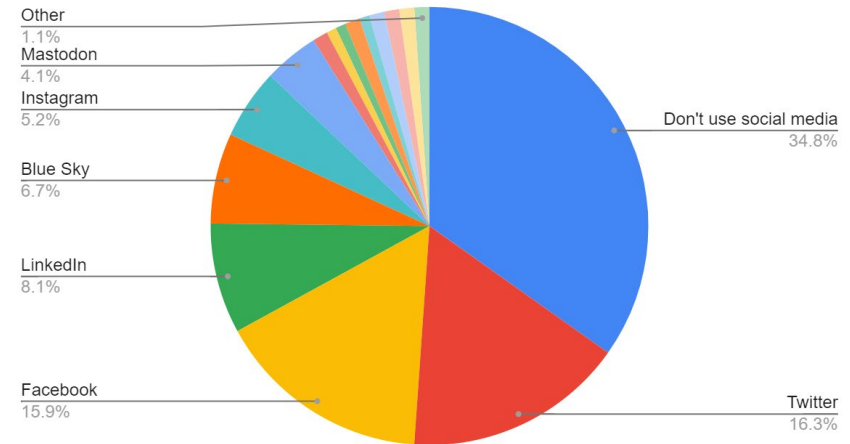
Provide support across a variety of channels

- Remains area for improvement
 - What are the right channels?
 - New community engagement coordinator
- Further discussion in Session 5

Where did you learn about this survey?



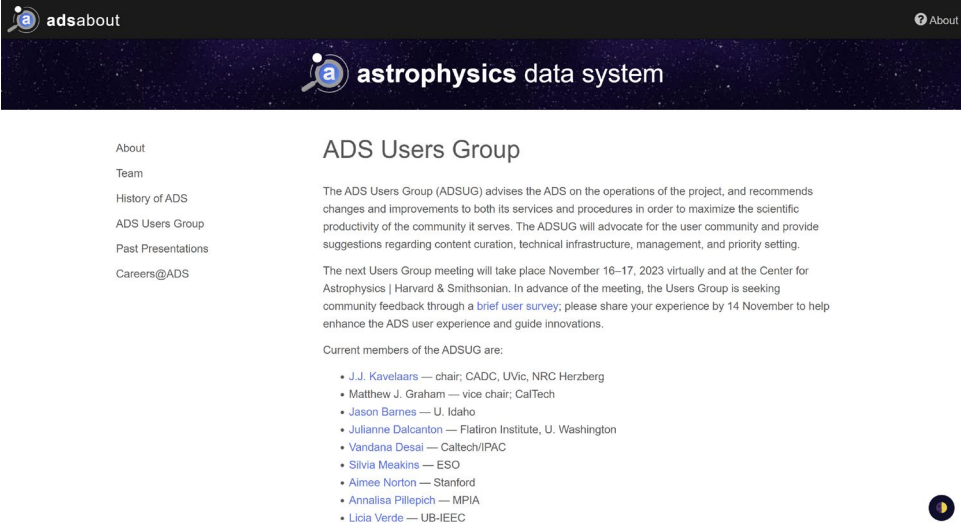
What social media do you use for science information?



2022 ADSUG Recommendation

Expand ADSUG incrementally for new disciplines

“As SciX is developed, expand, incrementally, the expertise within the ADSUG to allow expanded perspectives to be brought into the UG while maintaining an experienced UG membership who can provide experience driven feedback to ADS and mentorship to UG members from new disciplines.”



The screenshot shows the ADS Users Group website. The header features the 'adsabout' logo on the left and the 'astrophysics data system' logo on the right. A navigation menu on the left includes links for 'About', 'Team', 'History of ADS', 'ADS Users Group', 'Past Presentations', and 'Careers@ADS'. The main content area is titled 'ADS Users Group' and contains the following text:

The ADS Users Group (ADSUG) advises the ADS on the operations of the project, and recommends changes and improvements to both its services and procedures in order to maximize the scientific productivity of the community it serves. The ADSUG will advocate for the user community and provide suggestions regarding content curation, technical infrastructure, management, and priority setting.

The next Users Group meeting will take place November 16–17, 2023 virtually and at the Center for Astrophysics | Harvard & Smithsonian. In advance of the meeting, the Users Group is seeking community feedback through a [brief user survey](#); please share your experience by 14 November to help enhance the ADS user experience and guide innovations.

Current members of the ADSUG are:

- J.J. Kavelaars — chair; CADC, UVic, NRC Herzberg
- Matthew J. Graham — vice chair; CalTech
- Jason Barnes — U. Idaho
- Julianne Dalcanton — Flatiron Institute, U. Washington
- Vandana Desai — Caltech/IPAC
- Silvia Meakins — ESO
- Aimee Norton — Stanford
- Annalisa Pillepich — MPA
- Licia Verde — UB-IEEC

Further discussion during Session 5

2022 ADSUG Recommendation



Questions?