Recent developments and initiatives in scholarly publishing

Alberto Accomazzi
IVOA Interop, Cape Town, South Africa
12 May 2016
Overview

- Use of API and ORCIDs in ADS
- The Unified Astronomy Thesaurus
- Annotating All Knowledge Coalition
- Authorship and Contributor Roles
- Software Citation Principles
- Software Publishing
- Places where this stuff is discussed
API access tied to Bumblebee accounts

This API token allows you to access ADS data programmatically. For instance, to fetch the first few bibcodes for the query "star", make the following request:

```
curl -H 'Authorization: Bearer:KnvKe5NY7KP9iJCTsoMnCk6HCkwFwfE5iVWfowsF' 'http://api.adsabs.harvard.edu/v1/search/query?q=star&fl=bibcode'
```

(If you've generated a token, you can copy-paste the preceding line directly into your terminal)

Documentation on how to use the API is available on the ADS API Github repo.

Make sure to keep your API key secret to protect it from abuse.

If your key has been exposed publically (say, by accidentally being committed to a Github repo) you can generate a new one by clicking on the button above.
ADS API access tied to Bumblebee accounts

adsabs-dev-api

ADS Developer API description.

For bugs, feature requests or even random questions feel free to use the issues section.

Table of Contents
- Access
- Access Settings
- Search API
- Metrics API
- Export API
- Libraries API

Mailing List

Announcements and discussion related to the Developer API are available via the Google Group, adsabs-dev-api. We encourage all API users to subscribe, as the functionality of the API, will likely be improving and changing rapidly.

Clients

The unofficial python client for the API is maintained by Andy Casey and can be found here:
- https://github.com/andycasey/ads
ADS API Usage

kpub: Kepler publication database

A database of scientific publications related to NASA’s Kepler/K2 mission.
kpub is a mission-specific tool that enables NASA’s Kepler/K2 Guest Observer to search, create and curate a database that contains the metadata of mission-related publications.

Example use

Print a nicely-formatted list of Kepler-related exoplanet publications in reverse chronological order:

```
kpub --exoplanets
```

Add a new article to the database using its bibcode. This command will classify the science:

```
kpub-add 2015arXiv150204715F
```

A Brief Analysis of Hubble, Einstein and Sagan Fellows With ADS

04 April 2016

Now that the job hunt is largely over, I thought it might be interesting to briefly examine the publication profiles of previous and current holders of fellowships which are the most in demand. The core fellowships I focus on are the NASA-funded Einstein, Hubble and Sagan fellowships which often get hundreds of applicants each year.
ORCID Claiming and Indexing in ADS

Claiming since 1/1/2016:
- 917 users
- 50,011 papers
- 81,000 unique claims

Record indexing as of 4/1/2016:
- 14,500 publisher records
- 48,942 claimed+validated records
- 62,934 records with at least one ORCID mapping
Unified Astronomy Thesaurus v.1 is here!

December 23, 2015 / Katie Frex / No comments

Today I am releasing version one of the Unified Astronomy Thesaurus (UAT v.1).

The UAT has been completely overhauled; restructured into new top level categories and re-organized throughout. There have been many major revisions to bring it more inline with the way astronomers and astrophysicists study the universe.

I want to thank Sarah Weissman, Josh Peek, Kayleigh Bohemier, Dianne Dietrich, Jane Holmquist, Barbara Kern, and especially Jill Lagerstrom for all of the work each of you put into revising and updating the thesaurus. I also want to thank the many researchers and scientists who lent their expertise to this project. Because of all of you, every term in the UAT was looked at, revised, edited, tweaked, or moved.

Version 1 of the Unified Astronomy Thesaurus has 1834 terms, 11 top level categories, a depth of 10 terms, and 319 ‘related term’ links. For comparison, the beta version of the UAT had 1920 terms, 15 top level categories, a depth of 15 terms, and 224 ‘related term’ links.

In addition to the major restructuring of the UATs top level categories and overall organizational structure, 321 terms were removed, 236 new terms were added, and 95 new ‘related term’ links were added.
Annotating All Knowledge Coalition

Group of publishers, information providers, tech firms announce plans to work together towards open, portable annotations based on the Hypothes.is platform. This includes Wiley, CrossRef, PLOS, Project Jupyter, HighWire, arXiv and ADS

http://www.nature.com/news/annotating-the-scholarly-web-1.18900
https://hypothes.is/annotating-all-knowledge/
https://hypothes.is/for-publishers/
Envisioning a Scholarly Annotation Layer

- It must be built on an open but standard framework that enables global discovery and community enrichment.
- It must support granular annotation of elements in all key formats, and across different representations of the same content (e.g. PDF vs HTML).
- There must be a diversity of interoperable annotation systems.
- These systems must be fully accessible to humans, and machines that will use APIs to create and mine annotations.
- It must be possible to identify people, groups, and resources in global ways, so that sharing, discovery, and interconnection can span repositories and annotation services.
Authorship and Contributor Roles

The Contributor Roles Taxonomy project (Project CRediT) emerged to address recognition that the concept of ‘authorship’ in producing scientific scholarly output is outdated and no longer fit for purpose. Project CRediT aims to provide transparency to the contributions of researchers to scholarly published work, to enable discoverability and to improve attribution, credit, and accountability.

Contributor roles currently used by: Cell, PLOS, Nature. Is this the long-term destiny for all?

http://casrai.org/credit
Software Citation Principles

Published in April 2016, follows the data citation principles:

- Importance
- Credit and Attribution
- Unique Identification
- Persistence
- Accessibility
- Specificity

https://www.force11.org/software-citation-principles
Software Publishing

Now many options available for “[pP]ublishing” and taking credit for Software:

● Put it on Github/Bitbucket/<insert favorite repo here> with a CITATION file specifying how you would like to be acknowledged
● Make a release and push the code to a preservation system such as Zenodo (DOI is minted and code release is preserved)
● Write a minimal software paper in a publication such as the Journal of Open Source Software: [http://joss.theoij.org](http://joss.theoij.org) (code review is applied)
● Write a full paper describing the software in an appropriate journal such as Astronomy & Computing, A&A or in AAS journals (new - see [http://journals.aas.org/policy/software.html](http://journals.aas.org/policy/software.html))
The Journal of Open Source Software

A developer friendly journal for research software packages.

Learn more »

Recent papers (0) Popular papers (0) Submitted papers (5) All papers (5)

- **hrbrmstr / metricsgraphics** [JOSS Under Review]
  MetricsGraphics.js is a library built on top of D3 that is optimized for visualizing and laying out time-series data. It provides a simple way...
  10.5281/zenodo.50373

- **diana-hep / carl** [JOSS Under Review]
  Carl is a toolbox for likelihood-free inference in Python.
  10.5281/zenodo.47798
(i) Software Release Papers. To be suitable for publication in the journal, these should do more than just describe a new or updated software package. They should emphasize innovative factors like the intellectual contribution represented by a new algorithm or the use of a new technology, and should make clear the ways in which the software is of significant value to the community. The editors anticipate that software releases that merit a journal publication will be professionally packaged and documented, and made available from a stable URL, preferably with the source code available in a public repository: (see section below on "Source code repositories").
Policy Statement on Software

1 January 2016

AAS Journals have adopted a policy that reflects the importance of software to the astronomical community, and the need for clear communication about such software which ensures that credit is appropriately given to its authors. The policy provides clear guidelines for citing software in all papers, and supports the publication of descriptive papers about software relevant to research in astronomy and astrophysics.

Guidelines for software papers

AAS Journals welcome papers which describe the design and function of software of relevance to research in astronomy and astrophysics. Such papers should contain a description of the software, its novel features and its intended use. Such papers need not include research results produced using the software, although including examples of applications can be helpful. There is no minimum length requirement for software papers.

If a piece of novel software is important to published research then it is likely appropriate to describe it in such a paper.
Reproducible Research: Citing your execution environment using Docker and a DOI

By Robert Haines, Institute Fellow & Research Software Engineering Manager, IT Services, University of Manchester and Caroline Jay, Institute Fellow & Lecturer, School of Computer Science, University of Manchester.

As we move into a world where (hopefully) more and more people are trying to make their research as reproducible as possible, a lot of us are turning to Docker to help out with the task of distributing our research software in a way in which it is as accessible as possible to others. As we move in this direction we need to be able to cite the software environments that we are executing, not just the source code itself.
Where some of this stuff is discussed