State of the ADS

Alberto Accomazzi and the ADS Team

ADS Users Group Meeting, 19-20 Nov. 2020

Overview

- ADS Staffing
- Review of 2019 ADSUG Recommendations
- NASA's Review of Astrophysics Archives (AAPR2020)
- Impact of COVID-19 on project
- NASA Exploratory Request for ADS Expansion

ADS Staffing

Updates from last year

- Not able to fill position for UI/UX developer, but still actively looking
- Suffered one resignation (Text Mining developer) in July, now upgraded position to Machine Learning Specialist and actively recruiting
- Nemanja Martinovic hired in Sep. 2020 as DevOps engineer
- Michael Kurtz retired in March 2020 but now helping along as Emeritus
- Pavlos Protopapas also serving as Interim project scientist for Data Science

New NASA Cooperative Agreement to start on March 1, 2021

- NASA Agreed to a full FTE position for Project Scientist
- NASA budget allows us to retain current positions (via overguide funding)
- (Thanks to Chris Lintott for help with ADS proposal!)

ADS Staff and Roles

- Alberto Accomazzi, PI
- Michael J. Kurtz, Project Scientist Emeritus (part time)
- Pavlos Protopapas, Interim Project Scientist for Data Science (part time)
- Edwin A. Henneken, Content, Curation and Collaborations Lead
- Sergi Blanco-Cuaresma, Software Development and Cloud Operations Lead
- Carolyn S. Grant, Senior Curator
- Roman Chyla, System Architect and Senior Developer
- Donna M. Thompson, Data Curation Librarian
- Steve McDonald, Pipeline Development and Operations (part time)
- Tim Hostetler, User Interface and Front-end Developer
- Golnaz Shapurian, Senior Developer, Applications & Services
- Matthew Templeton, Data Ingest and Curation
- Kelly Lockhart, Back-End Development and Community Outreach
- Nemanja Martinovic, System Operations, Cloud Computing and DevOps
- [TBD], User Experience and User Interface Development
- [TBD], Machine Learning Specialist

https://ui.adsabs.harvard.edu/about/careers/

ADSUG 2019 Recommendations (1/6)

We recommend that ADS urgently prioritize gathering and regularly analyzing usage metrics to guide decision-making process

Addressed in A/B testing presentation

Dedicated planning towards front-end refactoring

Planning started, but work delayed due to vacancy

Prioritize the transition of the back-end services, which still depend on poorly understood legacy code. Use incremental approach, avoid accruing technical debt.

Planning started; gathering of requirements ongoing

ADSUG 2019 Recommendations (2/6)

We encourage pursuing the unification of infrastructure in the cloud to improve infrastructure reliability and to take advantage of the existing DevOps experiences and workflows already used for the front-end services

Several pipeline improvements discussed in Infrastructure presentations

We suggest ADS prioritize continuing to build, expose, and document APIs against as broad a range of internal services as is possible

Work delayed due to vacancy and other priorities

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ADSUG 2019 Recommendations (3/6)

We suggest that ADS invest in building and supporting open source, open development Python clients for all their APIs. We suggest that ADS use this package as the core of their outreach efforts to both the technical user community and to peer institutions.

Work scheduled for 2021 (hello Andy! ;-)

We encourage the ADS user group to consider deploying a public support forum to complement their current email support, and to replace their API support forum on Google Groups.

Covered in User Support presentation

ADSUG 2019 Recommendations (4/6)

We encourage ADS to put a process in place to update, refine, or produce new documentation so that most support questions can be ultimately answered by formal user documentation.

Addressed in User Support presentation

Making all parts of the ADS website fully accessible needs to become a priority, even in a landscape of limited resources.

Addressed in Usability and Accessibility presentation

We urge the team to explore options for working with research information management system or repositories where relevant.

Partly addressed in Project Expansion discussion

ADSUG 2019 Recommendations (5/6)

We recommend that the project scientist position - as a full time, ongoing and senior role, with substantial time allowed for independent research - be filled as soon as possible. [...] More support may be necessary to ensure that the allocation of resources for this role do not detract from the day to day operational capacity of the team.

Full-time PS position now included in new NASA budget starting 3/2021

Retaining enough flexibility in the team to cover for vacancies is essential [...] Specifically, in the upcoming 2020 review, we would support the ADS team in applying for a modest overguide funding request to enable the team to fulfil ADS' potential and their ambitions for the system.

Current staffing level retained in new NASA budget starting 3/2021

ADSUG 2019 Recommendations (6/6)

Last year, the ADS submitted a proposal to NASA to include planetary science data and thus enhance its support for the field of exoplanets as a whole. The ADSUG believes this effort is a priority and strongly supports the level and spirit of the request. Thus the ADSUG also strongly encourages NASA to quickly find a way to support this important interdisciplinary endeavor.

Covered in the presentation on ADS Expansion

AAPR2020 Outcome (Summary)

ADS rated "excellent" by panel. Some comments from report:

> *ADS provides services that are utilized by virtually every astronomer on the planet. [...] ADS is an indispensable tool for astronomers.*
>
> *ADS is unique in science in the completeness of the scholarly data that it provides; this provides advantages to astronomy that do not exist in most other fields. Compared to other services, ADS is strikingly advanced in its features, its low cost per article, low cost per users served, and its vision for the future. ADS is therefore extremely valuable for scientific research.*
>
> *Existing outreach is varied through presence at conferences, tutorials on YouTube, social media (i.e., Twitter, Facebook), and online support forums. The ADS Users Group meets annually and writes a summary report. This group has been providing useful guidance on features and directions for new development.*

Impact of COVID-19 on Project

- Team well-prepared for a switch to telecommuting
  - All team members had laptops, ability to work remotely
  - Enhanced home-office setup with hardware purchases when necessary
- Success stories:
  - Nemanja Martinovic joined team as DevOps in September from Serbia(!)
  - Ongoing hiring process continues despite challenges in onboarding and restrictions on affect hiring foreign nationals
- Concerns:
  - Telecommuting is a challenge to team building and cohesiveness efforts
  - Employees have gone 10+ months away from partners or family abroad
  - Zoomferences not as effective as in-person interaction with users
  - Suggestions on how to mitigate negative impact of pandemic welcome

NASA Request from Oct. 2020

- Development of a project plan for extending ADS following the [SMD Strategy for data and computing](#) over next 3-5 years

- Implement integration of ADS data with additional NASA repositories

- Harvest and Index of NASA data sets via DOIs, integrate in ADS

- Include publications from all SMD Divisions: Planetary Science, Heliophysics, Earth Sciences, Biological & Physical Sciences

- Support cloud-based technologies and AI/ML initiatives using NASA publications

Note: This is currently an exploratory effort, starting with the request for a proposal which will be discussed in the Project Expansion presentation