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Projects at Palomar: New and Traditional Roles for the Caltech Library

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ABSTRACT

In the last year, two projects illustrate opportunities for our Library to work in new ways to document and preserve the research of Palomar and Caltech. Observing log books from Palomar telescopes are being digitized and presented online. These logs go back to the 1930s and are a unique window into early observing activities at Palomar. Eventually, both observer and plate logs will be available. We envision astronomers, amateur astronomers and those interested in the history of science being interested in this work. Current Palomar research has different needs. Our institutional repository (IR), CaltechAUTHORS is used to track and expose research associated with the Zwicky Transient Factory. This National Science Foundation (NSF) funded instrument is mounted on the 48-inch telescope at Palomar. CaltechAUTHORS is continuously updated with new papers and when NSF reports are due they are added to research.gov to support the award. In both of these projects new collaborations needed to be forged in order to accomplish the work. Internally, the log book project relied on interlibrary loan staff, our archivist and our digital technologies librarian. On the Palomar side we leaned on retired and current staff from the optical observatories. Our work supporting research grants has evolved as we've established relationships with PIs, grants managers and the Office of Sponsored Research at Caltech. These are just two projects but both represent work that is evolving as the library and its services adjust to meet the changing research and preservation needs of the Institute.

Palomar Logbooks

A few print observer logbooks from Palomar had been in the Astronomy Library's collection at Caltech since the 1990s. These were facsimile copies of select logbooks from Palomar. They are loose-bound photocopies that are of poor quality and are sometimes hard to read.

In 2019, quite by chance, library staff learned that our Interlibrary Loan (ILL) service had been contracted to digitize logbooks from Palomar. That effort only intended to deliver digital surrogates to the requestor. There was no plan for hosting or archiving the material. It took time to delicately request that there be an alternate plan that involved multiple library units, long term archiving and a safe home for the original material.

So many different people were involved in this project that it was going to be difficult to pave a path forward. The stakeholders included people from Palomar Mountain, the

Caltech Campus, The Library and the Archives. All of these groups are spread apart geographically and in some cases philosophically. Even more complicating are divisions within the library organization between different departments, librarians and staff. It was going to be a challenge to bring all of these people together to best preserve the unique material from Palomar.

Library staff from 3 departments (Research Services, Circulation and Archives) started working together to digitize the logbooks from the 18" Schmidt Telescope. We chose this telescope to start with because it's been de-commissioned. It was the first instrument at Palomar and began operation in 1936. As well, we had a complete run of the logbooks from the 18" telescope. This wasn't the case for the other telescopes at Palomar that are still in operation. We were going to have to wait some time before we had additional print logbooks at Caltech from the other telescopes at Palomar.

Peter Collopy, Caltech's archivist, created a master spreadsheet with information about the individual logbooks. It inventories what logbooks we've received from Palomar, where each volume is held and notes when a volume moves from the Archives to a different building for scanning.

In reading the the 18" logbooks there were all sorts of notes that we transcribed for future metadata. There was weather information that included notes about earthquakes and fires. The logbooks included information about the observers using the instrument on specific nights. There were notes over periods of days that detailed important events such as the discovery of a supernova. For example on the evening of May 3, 1954 the 18" logbooks indicate, "supernova discovered in NGC 5668" [1](#). All of the information transcribed will eventually help enrich the metadata associated with the logbooks.

That's a very specific example of what you can discover in the scanned logbooks from this telescope. So far we've digitized all of the observing logs from the 18" telescope and added them to Islandora, an Archives platform. In the future we're excited to think about the way these observer logs can be linked to the plates associated with the observations. We have more logs to digitize from the 48" and 200" telescopes at Palomar. There is a lot of work ahead and it will take a serious time and resource commitment to keep things moving forward.

Zwicky Transient Facility Publications

The second Palomar Project our Library has worked on involves the 48" telescope at Palomar and documenting the research papers associated with the Zwicky Transient

Facility (ZTF). We do this work by using our institutional repository, CaltechAUTHORS.

Library staff at Caltech have been consistently depositing Caltech-authored research into this repository since 2001. Currently, there are almost 100k records in the database. In 2012 we began leveraging the content to track output from research groups, endowed centers and specific grants.

Anything, but mostly research articles, that is Caltech authored, gets added to Caltech AUTHORS. We use a metadata field for “group” to tag publications from specific campus groups. There is no limit to the number of groups that an article can be associated with; in some cases an article can be tagged with three groups. For example an article can have three groups tagged: Astronomy Department, ZTF and IPAC. We have some articles that have 4 different campus groups. This means that the paper will appear on all 4 group publications pages. When we do this consistently across all of our repositories we can offer groups customizable ways to display publications on their websites.

The Zwicky Transient Facility is funded by the NSF and began 2017. It is an instrument mounted on the 48” telescope at Palomar. When the ZTF was initially funded the Library was asked to help track the research output from the instrument. ZTF collaborators were then asked to contact the Library when they published a new paper. There have been some issues with this arrangement.

Many ZTF researchers are at Caltech. Some are not and so these ZTF papers are published without a Caltech author. This matters because our repository is meant to track Caltech publications. If the authors on a ZTF paper are, for example, in Washington or Maryland we don’t have the mandate or the resources to add their papers to CaltechAUTHORS.

CaltechAUTHORS can continue to track publications from ZTF when a publication has a Caltech author [2](#). However, in order to be comprehensive it makes a lot of sense to use ADS Private Libraries to keep track of these papers. The ZTF Publications page [3](#) now has a publications feed from CaltechAUTHORS and a link to an ZTF-ADS Private library. As well, there are several Persistent Identifier (PID) projects that will assist with this work in the future and relieve us of manually tagging articles in CaltechAUTHORS. ORCID [4](#) is already helping by establishing a persistent identifier for an author. ROR [5](#) will help us associate those names with a research organization like Caltech. A way to acknowledge specific grants in a standardized way will also help us in the future.

Conclusion

We have two very different Palomar projects that rely on different library tools. Preserving the paper record of observer logbooks from Palomar is an important project that involves multiple people from across the library and from Palomar. That work will continue and likely grow as we move on to tackle plates. These projects are more than 50 years apart but in both cases our Library would like to document and preserve the work at Palomar and share the impact it has had.

Footnotes

1. <https://digital.archives.caltech.edu/palomar>, ↵
2. <https://feeds.library.caltech.edu/groups/Zwicky-Transient-Facility/> ↵
3. <https://www.ztf.caltech.edu/page/publications>, ↵
4. <https://orcid.org/> ↵
5. <https://ror.org/> ↵