



What's Up With the Astronomical League October, 2014

Volume 9, Number 6

October 1, 2014

Compiled by Carroll
Iorg, Media Officer

Astronomical League Volunteers Needed to Help With Phase Two of the Harvard Glass Plate Transcription Project

A core group of Astronomical League members has already participated in the initial project. More specific information will be provided to our members within the next few weeks regarding the League's invitation to participate in the revised project (please see Harvard-Smithsonian Center for Astrophysics news release below):



Cambridge, MA -

Volunteers Needed to Preserve Astronomical History and Promote Discovery

Release No.: 2014-23

For Release: Thursday, September 4, 2014 - 10:00am

Before iPhones and laptops there were human computers, some of whom worked at the Harvard College Observatory. Women like Henrietta Swan Leavitt, Williamina Fleming, and Annie Jump Cannon made some of the most important discoveries in astronomy in the early 20th century. Their work was even featured in the TV series *Cosmos*, hosted by Neil deGrasse Tyson. Now, Harvard is seeking your help to transcribe the logbooks that record the century-long observations behind (and beyond) their discoveries.

"Digitizing the ~500,000 glass plate images covering the full sky will foster new scientific discoveries for the currently 'hot' field of studying variability of astronomical objects, or Time Domain Astronomy, as we bring to light these long-hidden archives," says Harvard professor Josh Grindlay, the leader of the Digital Access to a Sky Century at Harvard (DASCH) project.

The telescope logbooks record vital information associated with a 100-year-long effort to record images of the sky. By transcribing logbook text to put those historical observations in context, volunteers can help to unlock hidden discoveries.

To participate in this new "citizen scientist" initiative, interested parties are invited to sign up at <https://transcription.si.edu/browse?filter=owner:11>

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We need to transcribe more than 100 logbooks containing about 10,000 pages of text. We seek volunteers to type in a few numbers per line of text onto web-based forms, since optical character recognition (OCR) doesn't work on these hand-written entries. Harvard is partnering with the Smithsonian Transcription Center to recruit Digital Volunteers. This effort is part of a larger Smithsonian-wide initiative that was publicly launched last month. By transcribing historic documents and collection records, the resources of the Smithsonian and its partners are being brought to a new, global audience via the web.

"By simply typing in selected parts of the logbook entries for each plate, the public can partner with us as we make new discoveries while preserving the past," explains Harvard Curatorial Assistant David Sliski, who led the effort to make this transcription project possible.

A Century of Sky Observations

Between 1885 and 1992, the Harvard College Observatory (now part of the Harvard-Smithsonian Center for Astrophysics) repeatedly photographed the night sky with telescopes in both the northern and southern hemispheres. As a result the Observatory's archives hold more than 500,000 glass photographic plates (each 8 by 10 inches), nearly three times as many as the next largest collection in the world.

The DASCH project is conserving the plates by digitizing them on a high-speed scanner (up to 400 plates per day) and measuring the position and brightness of every star or distinct object on each plate. To put the mountains of data in context, each plate scan must be linked to the logbook "metadata" - handwritten entries recording details like the date, time, exposure length, and location on the sky.

The logbook data is required because it is the only record of the date and time for each exposure, which is essential to measure how the brightness and position of each object on each plate changes with time. Without these transcriptions the DASCH project would not be possible.

From just the early phase of "production scanning," Harvard-Smithsonian scientists have found unexpected phenomena. For example, one rare class of object is a star paired with a black hole, which flares in brightness for a month every 50-100 years. Before DASCH, only two historical outbursts from such star-black hole pairs were known. In the past two years, with fewer than 10 percent of the plates having been digitized, DASCH has found three more. By measuring their historical outbursts and recurrence times, astronomers can deduce how many such systems remain hidden in our Galaxy.

The DASCH project website is <http://dasch.rc.fas.harvard.edu/>. DASCH is supported by grants from the National Science Foundation.

Headquartered in Cambridge, Mass., the Harvard-Smithsonian Center for Astrophysics (CfA) is a joint collaboration between the Smithsonian Astrophysical Observatory and the Harvard College Observatory. CfA scientists, organized into six research divisions, study the origin, evolution and ultimate fate of the universe.

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NASA Observing Collaboration

The Astronomical League is working with NASA to bring you some special observing opportunities and awards. The first of these is coming up very soon. It is to celebrate the flyby of Mars by Comet Siding-Spring. The target date is October 19, 2014. Submissions must be made to the NASA website by December 19, 2014.

In brief, you need to take a picture of the comet and/or Mars and submit it to the NASA website. You also need to do an outreach event related to this event before December 19, 2014 and note it when you submit your image. There is no pin, this does NOT count towards a Master Observer Certification, but there is a certificate signed by NASA and the AL leaders.

The NASA website address is: <http://solarsystem.nasa.gov/news/challenges.cfm>. If you have questions, send them to Aaron Clevenson at aaron@clevenson.org.

Assorted Photos From ALCon 2014



Charlie Bates Solar Observing Program by Steve Ramsden



Keynote speaker Dr. Don Pettit



Erika Rix Sketching Presentation



Registration