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**BENE LEGERE**  
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# SETI AT THE ASTRONOMY / MATHEMATICS / STATISTICS LIBRARY

## A Librarian's Tutorial on How to Use the Digital Library

Ann Jensen, Librarian

*Editor's Note: Using the topic of SETI (please see sidebar), Librarian Ann Jensen has created for the reader a detailed guide to using the*



*Astronomy/Mathematics/Statistics Library with the latest electronic tools and resources.*

Most of us have heard something about the search for extraterrestrial intelligence, known as SETI, if not officially then through the media which informs our popular culture. And probably almost as many of us have also quickly dismissed this topic as quasi-science or on the outer fringes of legitimate academic research. But when we read in the mainstream press, as we did this spring, of the establishment of the *Watson and Marilyn Alberts Chair for the Search for Extraterrestrial Intelligence* at the University of California, Berkeley, we sit up and take notice. And indeed, the appointment of esteemed Professor William J. Welch to this chair is recognition of a body of highly regarded research by astronomers, astrophysicists, planetary scientists, and engineers, as well as a commitment to continuing exploration.

Using SETI as an example, what follows is one strategy for using some of the electronic tools and resources of the UC Berkeley Library to pursue a newly sparked interest in any field which might be entirely new to you as a topic of serious study. In some cases, you will be led to further electronic resources; in many other cases, electronic tools will lead you to traditional books, journal articles, and conference publications. And as in most productive library research, you may end up reading materials which you had no idea existed before your focused, yet serendipitous, research.

The Magazine Index (MAGS) on the California Digital Library System (CDL, formerly MELVYL), is a great place to



start investigations about topics that are new to you. You can quickly retrieve references to articles which have some relevance to this topic by searching for a keyword (find kw seti). A quick review indicates between six to ten articles each year, at least back to the beginning of the MAGS database coverage which is 1988. By reading a few in full-text format on the screen, you begin to

recognize some of the vocabulary used to discuss this topic, identify some of the key names and institutions, separate the technical articles from the more philosophical, and generally get an overview of current research directions related to this interdisciplinary field.

Perhaps next you'd like more depth about a particular aspect of SETI operations or support. The next logical database to explore is INSPEC, a premiere database for coverage of scholarly literature in a wide variety of physical sciences, including astronomy and astrophysics, electrical engineering and computer science, among others. Using the keyword approach again, you can immediately retrieve some relevant articles. By looking closely at the indexing of a few of the most relevant articles, you find that this database uses thesaurus terms for more specific retrieval.

The relevant thesaurus term is "extraterrestrial life." INSPEC covers articles back to 1969, and you can easily trace this work back that far as well. You will see articles written by scholars in departments of computer science, electrical engineering, physics, chemical biodynamics, biology, astronomy, and astrophysics.

Perhaps you'd like to learn more about Professor Welch. By searching for him as author (f au welch, w.j. and aa berkeley) in the INSPEC database, you find research articles about the science and technology that supports the search for extraterrestrial life. Radio aspects of his research are but one way in the search for extraterrestrial life as well.

Search the CDL catalog (tw extraterrestrial intelligence). By looking at the subject headings for books retrieved that way, you will find that a frequently used subject heading is "life on other planets." Another is "exobiology." Search on that to find books of interest in a variety of campus libraries:

Astronomy/Mathematics/Statistics, Biosciences, Engineering, and Earth Sciences. The variety of library

Professor William "Jack" Welch, former director of UC Berkeley's Radio Astronomy Laboratory, holds the new *Watson and Marilyn Alberts Chair for the Search for Extraterrestrial Intelligence* (SETI), that will serve to enhance the status of this field of astronomy as an area of serious scientific inquiry. In one of the first SETI Institute projects, Berkeley professors and scientists from the SETI Institute in Mountain View, California, are building what will be the world's largest telescope devoted mainly to the search for extraterrestrial intelligence. A grouping of nearly 1,000 antennas (like a backyard satellite dish) that provide a collecting surface of 10,000 square meters, will be assembled at Berkeley's Hat Creek

locations indicates the cross-disciplinary nature of this emerging field.

Observatory near Mount Lassen to listen for signs of intelligent life.

Once you have selected a few volumes, you will soon discover that SETI, while a newly endowed chair on the Berkeley campus, is a research area with a multi-faceted history and an exciting but unknown future. Using contemporary library tools, you can find the new and old almost simultaneously. After a short time, you will know a bit about the vast reaches of our universe, and will have new respect for the many scientists engaged in this exciting venture.



Another SETI program is the SETI@home screen saver: software that allows anyone with a desktop computer to aid in the search for intelligent life in space. In the three months since its release, the number of participants worldwide is now surpassing one million. Statistics show that of the million people who have signed up with SETI@home and downloaded the software to let them analyze

radio data from space, about 600,000 have completed a least one unit of data analysis, and some 370,000 are steady contributors. SETI@home works in this way: on Windows and Macintosh computers, the computer program acts as a screen saver, kicking in when the computer is idle and crunching data collected from a radio telescope in Puerto Rico, the 1,000-foot diameter dish at Arecibo. While no signs of alien life have yet been found, the SETI craze has infected offices and classrooms in some 223 countries since the screen saver was made available on May 17 by a team of UC Berkeley scientists at the SETI Institute. For more information on SETI@home, please visit their Web site at: [setiathome.ssl.berkeley.edu/](http://setiathome.ssl.berkeley.edu/).

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