

## Origin and Evolution of the UCLA AstroBiology Society

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**Abstract.** Co-sponsored by the NASA Astrobiology Institute (NAI) at UCLA, and the Center for the Study of Evolution and the Origin of Life (CSEOL), the UCLA AstroBiology Society (ABS) was founded in 1999 to become the first student-run organization devoted to astrobiology. An interdisciplinary group, ABS unifies undergraduates, graduate students, and faculty of all fields through events and discussions centered around the diversity of themes that compose astrobiology science. ABS provides particular benefit to NAI's Education and Public Outreach efforts as a means of increasing awareness of and appreciation for astrobiology, particularly in the college community. A greater goal of the organization involves networking to seed AstroBiology Societies on other college campuses nation-wide. Additionally, ABS is currently doing research for NAI's Astrobiology Pathfinder program, which will help students at all stages to become Astrobiologists.

### 1. What is the UCLA AstroBiology Society?

The UCLA AstroBiology Society (ABS) was founded in 1999 to become the first student organization devoted to astrobiology. We are co-sponsored by the UCLA team of the NASA Astrobiology Institute (NAI), and the Center for the Study of Evolution and the Origin of Life (CSEOL).

Our Mission Statement Through this Society, we aim to:

- Present the studies and goals of astrobiology to science and non-science undergraduate students in an integrated fashion that is both interesting and applicable to all fields.
- Expand the perspectives of future scientists to encompass much more than their own areas of expertise.
- Encourage appreciation for how disciplines are related and demonstrate the importance of interaction/communication between them.

We endeavor to unify undergraduates, graduate students, and faculty of all fields, through events and discussions centered on the diversity of themes that compose astrobiology. While we focus our efforts on unifying and inspiring students and faculty, our meetings are not closed to the public. Though we don't keep strict attendance records, a rough estimate of the size of our membership

is demonstrated by the size of our mailing list, which currently includes over 200 people.

General meetings are held three or four times per academic quarter, each typically (but not always) featuring a speaker on some facet of astrobiology, followed by interactive discussion. Presentations are non-technical in nature to encourage attendance and participation of individuals from all fields of study.

In addition to general meetings, we also offer field trips and other activities. For example, our group visited the Mars Polar Lander facility in Westwood, volunteered for The Planetary Society's Planetfest '99 in Pasadena, toured the Mt. Wilson Observatory, explored the tide pools in Long Beach, and camped out in the Mojave Desert.

Excursions such as these give members the opportunity to appreciate the different aspects of astrobiology interactively.

Finally, we keep our members informed of other interesting events, both on and off campus, of news in astrobiology, of UCLA courses being offered which relate to astrobiology, and of other relevant opportunities.

In addition to promoting awareness of and involvement in astrobiology, another of our primary goals is to network with other organizations, allowing for integrative collaboration and increased opportunities for our members. We also aim to seed astrobiology societies at other universities, especially the NAI lead team universities.

## **2. Origins: Forming the Foundation for a Multi-Disciplinary Organisation**

In the fall of 1998, UCLA initiated the General Education Cluster program to assist freshmen in satisfying general education requirements while also serving as a useful, inspiring educational experience. This program initially included four separate year-long courses, or clusters, each focusing on different topics taught by an interdisciplinary team of professors. One of these clusters, "GE70: Evolution of the Cosmos and Life", followed a scheme of study from astrophysics, to planetary formation and geology, to biology, over two academic quarters, culminating in small seminars focusing on aspects of these related areas during the last quarter. Although not explicitly a course in astrobiology, GE70 was certainly a course centered on astrobiology science.

Two inspired students, Laurel Methot and Jason Finley, who took this course conjured support from several of the professors and graduate students in their mission to bring this inter-disciplinary experience to an extracurricular level, encouraging students and faculty of all ages and disciplines to interact and learn about astrobiology through a variety of media. With the interactive help and support of Dr. Greg Schultz (now an NSF Postdoctoral Fellow at UC Berkeley) and Dr. Steve Mojzsis (now a Professor at UC Boulder), and with the co-sponsorship of Dr. Bruce Runnegar through the UCLA division of NAI (Center for Astrobiology) and Dr. Bill Schopf through CSEOL, the students were offered a wealth of resources with which to build an active student group.

With strong support from both the faculty and the student body, the scaffolding was laid down for the formation of an astrobiology-based student group. Upon designing an extensive website and registering as an official campus or-

ganization in the fall of 1999, the UCLA AstroBiology Society became the first multidisciplinary academic student group on the UCLA campus, and the first university-affiliated Astrobiology student group ever.

### **3. Evolution: Developing as an Organization, Surpassing Challenges and Looking into the Future**

After our first year as a student organization on the UCLA campus, we decided to recruit a student body of fellow officers as we recognized the need to eventually hand the group over to the next generation of student leaders to assure ABS's longevity. About this same time in the fall of 2000, UCLA's NAI division welcomed a new EPO team, managed by Barbara Laval, which quickly became a very important advising unit for ABS, and has remained so ever since. With this new backbone of advisors and officers, UCLA-ABS became a stronger organization, and began to gain increasing local, as well as national, repute within the astrobiology science community. Since then, we have gradually increased our number of officers and added new positions to improve outreach capacities and pursue projects consistent with ABS objectives.

#### **3.1. Challenges**

As an interdisciplinary academic student group, we have faced challenges which virtually no other student groups face. Though the issues we address are appealing to many, we lack the cohesive membership of groups in which all members have much in common (e.g., groups based on a specific culture or discipline). Recruiting and maintaining devoted members has been a challenge, as many students tend to stick to their own individual majors and can not afford time to pursue broader interests. We have countered this with patience and persistent, widespread advertising; over time, those truly inspired by Astrobiology have discovered us and have become a solid membership.

Running this student group has also required massive amounts of organizational effort; since no similar group existed previously, we were forced to invent and discover everything ourselves. Arranging meetings, finding speakers, advertising, maintaining the web site, reaching out to other organizations: all of these tasks have demanded much work, and the two of us exerted ourselves greatly to accomplish them. Again though, with time and persistence our membership grew and we were able to welcome aboard a crew of devoted student officers. However, without the experience of forming the organization from scratch, our officers have not found taking over many of our responsibilities to be straight forward. This is something to be overcome as we approach graduation.

#### **3.2. Present**

*ABS and NAI* ABS is an asset to NAI education & public outreach. The questions which Astrobiology asks are as far-reaching as possible, and will require the continued work of successive generations of scientists. ABS reaches directly to the university student body to inform them of what Astrobiology is, to pique and feed their interest, and to provide them with opportunities that will integrate them into the field directly. In this way, ABS acts as a medium through which

students may be able to continually engage in the field of Astrobiology en route to becoming the next generation of Astrobiologists.

*Astrobiology Pathfinder* We are currently working on a project with NAI Education & Public Outreach (NAI EPO) called the “Astrobiology Pathfinder”. This project aims to produce a tool for students of all ages to find a path toward becoming an Astrobiologist. The tool will tell students what classes to take in high school, what internships and programs are available to them, what universities offer Astrobiology-related courses, and so on. We have a team of dedicated officers devoted to doing research for this project, currently focusing on university courses at the NAI member institutions. This long-term project will eventually provide a database of information about universities and colleges around the nation that will be very useful to students looking toward a future in Astrobiology.

### 3.3. Future of ABS

We hope that, as the founders, we will be able to successfully pass on this organization to our officers so that the society will continue onward, maintaining that same vision with which it was created.

*Seeding the Formation of Other Astrobiology Societies* The most important greater goal of the society is to seed others of its kind, starting at other NAI member universities. In this way, we could form an Astrobiology Network of student organizations, collectively working to create a forum for Astrobiology education at each campus to provide opportunities and guidance for future Astrobiologists, and also perhaps pursue other objectives associated with NAI EPO.

*Undergraduate Research* We are also working on creating an undergraduate research program which will allow undergraduate students at UCLA to participate in Astrobiology research being performed by UCLA faculty. This will give hands-on training and experience to students interested in becoming Astrobiologists.

## 4. Summary

- As the first of its kind, ABS has shown that student-centered Astrobiology societies are possible and rewarding, yet require a lot of effort and dedication to begin and maintain.
- ABS is valuable to NAI Education & Public Outreach as it informs and engages future Astrobiologists.
- We hope to continue the growth of our own organization and to encourage more such student-centered societies to form at other universities, ultimately creating an ABS network.