

**SAS Honors Seminar 259:
Extraterrestrial Life**

11/19/2008

GBT remote observing this evening

When: 9:00-12:00 tonight

Where: Serin Lab 309W

(Busch campus)

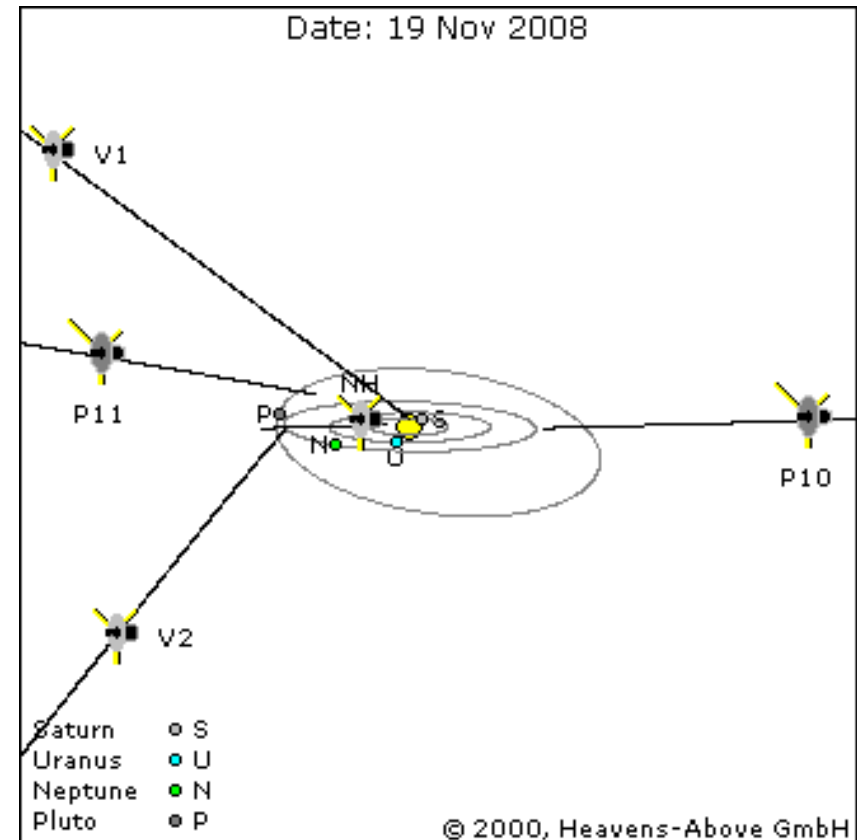
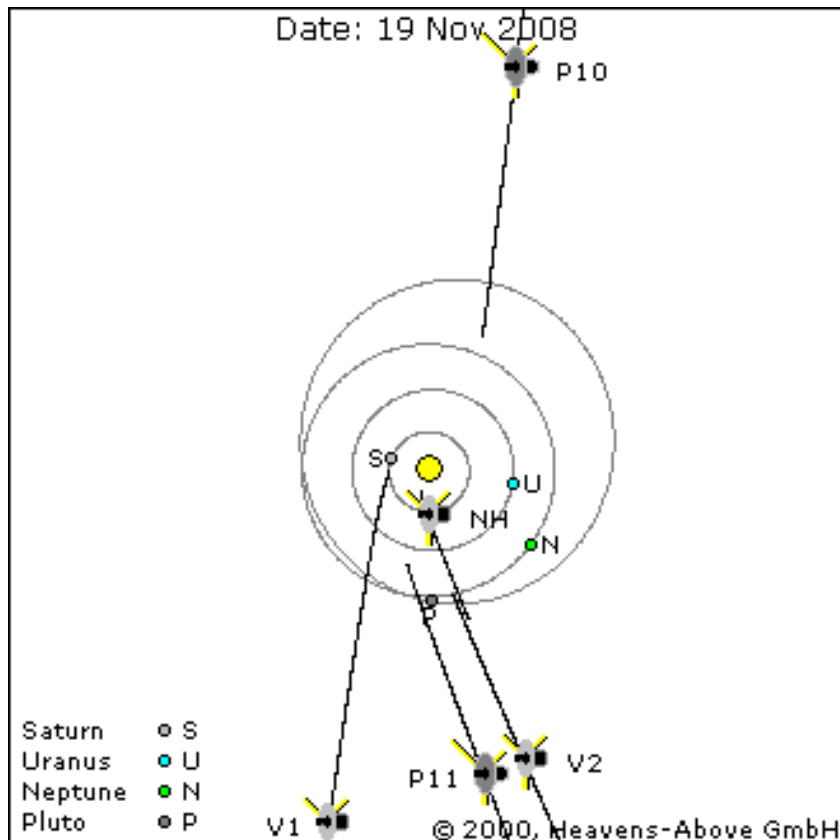
Who: Baker + Sharon + ???

How: Go to doors at west end of Serin (across the street from ARC) and call 732-445-2544 for me to let you in (after 10:00 is probably best; may also be at 732-445-5881).



Where are the *Pioneers* and *Voyagers* now?

[http://heavens-above.com/solar-escape.asp/?/](http://heavens-above.com/solar-escape.asp?/)



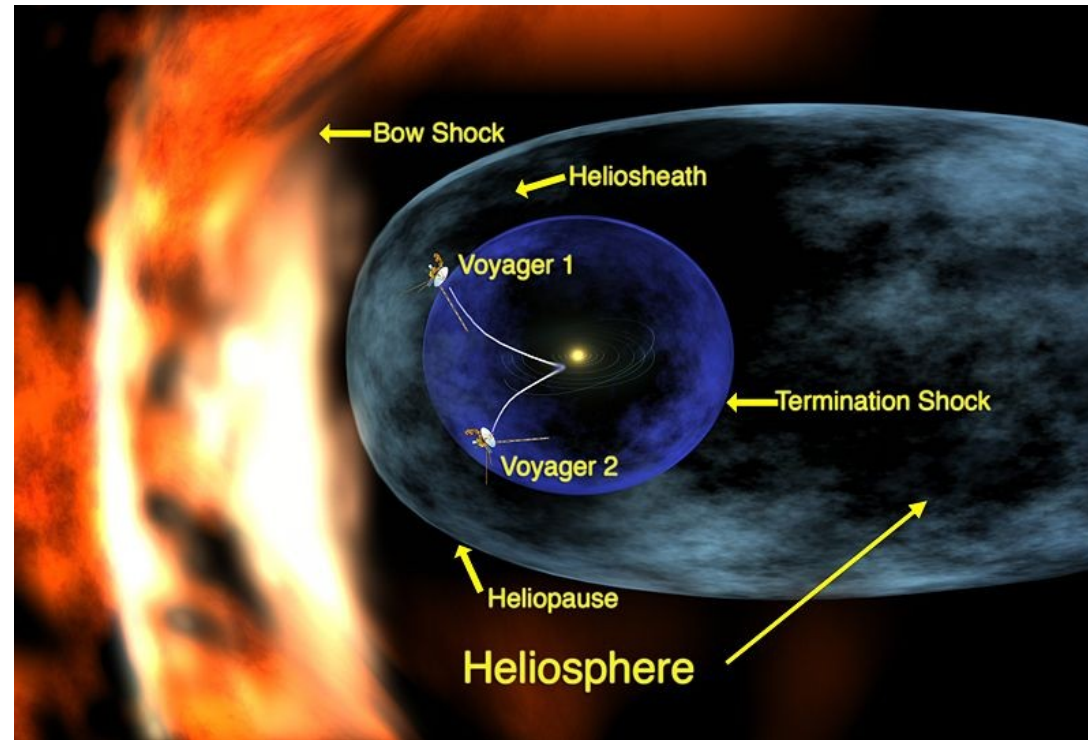
Pioneer 10 = 97 AU

Pioneer 11 = 77 AU

Voyager 1 = 108 AU

Voyager 2 = 87 AU

Leaving the solar system...



termination shock = where solar wind begins to slow down

Pioneer 10: March 3, 1972 – January 23, 2003

Pioneer 11: April 6, 1973 – November 1975

Voyager 2: August 20, 1977 – present (T.S. in 2007)

Voyager 1: September 5, 1977 – present (T.S. in 2003-2004)

Reading on *ethics* for Monday (11/24)

COSPAR (2002, 2005) *Planetary Protection Policy*:

“Preamble” and “Policy” *only*

NAS (2006) *Preventing the Forward Contamination of Mars*:

pp 1-10 (2-11 in PDF) *only*

**Race & Randolph (2002) – thoughts on discovery of
extraterrestrial (un)intelligence**

Fogg (2000) – thoughts on space settlement

**CNN (1999) – what risks should we be willing to take
to advance astrobiology?**

Due next Monday (11/24)

LAST response paper:

The late sociologist Marcello Truzzi deserves credit for the axiom (often attributed to Carl Sagan) that “Extraordinary claims require extraordinary proof.” Discuss whether and how this axiom applies to one or more subjects we have discussed in this class.



1935 – 2003

Student choice topics

Topic # 1 = (more on) human evolution

Topic # 2 = ???

(a) new images of extrasolar planets

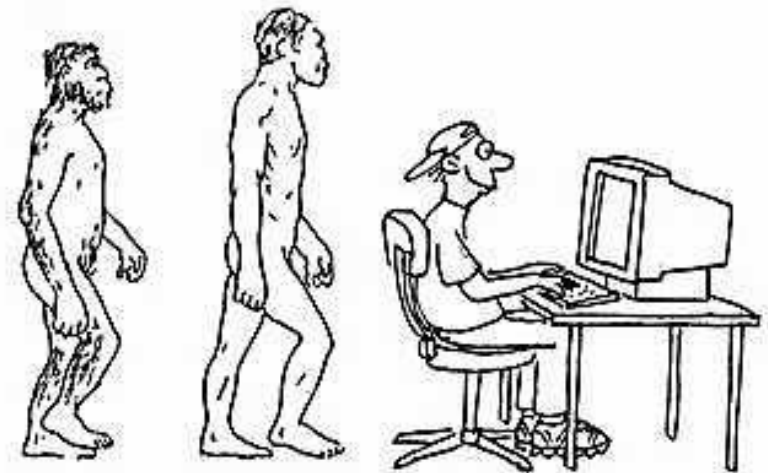
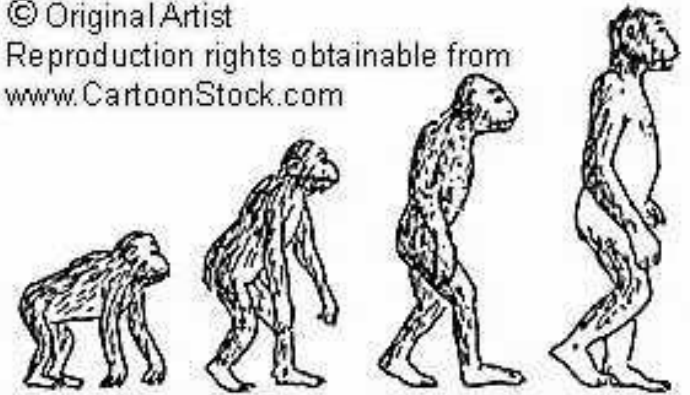
(b) recent Mars lander/rover missions

(c) life in terran ice

(d) highlights from BadAstronomy.com

(e) YOUR CHOICE HERE

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Term paper: basic parameters

Length: 10-15pp **double-spaced** (not including images/references)

Topic: your choice of subject matter related to astrobiology

(subject to my veto if too far afield or too speculative)

Sources: must be cited; Wikipedia is a guide, **not a reference!**

Submission: any time before December 22nd; may be emailed
in .doc, .rtf, or .pdf format (please no .docx!)

Late policy: usual 10% per day

Contribution to course grade: 30%

Term paper: evaluation

30% accuracy, comprehension, correctness of emphasis, etc.

20% style and readability

→ whatever I've been marking on your response papers

10% comprehensiveness/scope in terms of subject matter †

10% appropriate selection of references (quality + quantity) †

10% proper listing and citation of references

10% clearly drawn connection to astrobiology

10% expression of a point of view

→ don't write in the first person, but do (via choice or organization of topic, or explicit commentary) incorporate your opinion(s) on at least some of your subject matter

Again: Wikipedia is not a reference!

http://en.wikipedia.org/wiki/Roswell_UFO_incident

**“[A] crashed alien craft and bodies were recovered, and...
the military engaged in a cover-up.”**

**“Additional witnesses and reports emerged over the following
years. They added significant new details, including claims
of a large military operation dedicated to recovering alien
craft and aliens themselves, at as many as 11 crash sites.”**