SYLLABUS: ASTRONOMY 8900

GRADUATE SEMINAR IN ASTRONOMY **FALL 2005**

Coordinator: **Prof. Paul J. Wiita**

Timings: Wednesday, 3:00–3:50

Location: Room 732, One Park Place (PROBABLY: this room is not yet reserved for sure.)

Office hours: M 10–11 AM, T 1:30–2:30 PM, W 10-11 AM, and by appointment

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The first class (Aug. 23rd) will be an organizational meeting involving only students formally enrolled in the class. Presentations will be assigned for the first half of the semester at that time. The second and subsequent seminars will be open to all astronomy students, faculty and staff. The theme for the seminars this fall will be:

BIG and EARLY

This semester we will be learning a little about the BIGGEST current astronomical instruments in various wavebands. We will also learn about one or two of the EARLIEST (important) results obtained with each of these telescopes or detectors.

Each talk will consist of a 20 to 25 minute discussion of the rationale for, design of, unique capabilities of (not to mention cost of) the particular telescope or space mission. This will be followed by a 20 to 25 minute summary of one or two papers giving early (but important) results. WHY those results are important should be a big part of your talk.

Depending on the number of students finally enrolled, people will give between one and two 45 to 50 minute presentations during the course of the semester.

Some faculty or staff members may also give presentations on aspects of their current research.

TOPICS

The following currently operating telescopes are (among) the very biggest working in a wide range of wavelengths of the electromagnetic spectrum; a few explore non-electromagnetic clues to the universe. Each seminar will be devoted to one of the following (listed in alphabetical order):

AMANDA-II; Chandra; CHARA; GMRT; H.E.S.S.; Hubble; Keck; SNO; Spitzer; Swift; VLBA; VLT; WMAP; XMM-Newton

Second year students taking this course will be expected to give the earlier seminars, so they should be prepared by the first meeting date, Aug. 23rd, with their preferred topics.

If more than one person wants to discuss a particular astronomical tool, a random process will be employed to choose the winner, so come with a couple of back-up options.

GRADING

Grades will be predominantly (80%) based upon the presentations given by individual students. Accuracy and logical organization of the scientific content will be the most important aspects of the talks which will be evaluated; however, clarity, animation, flashes of humor, staying within the time limits and overall professionalism of the presentation will all be considered in assigning a grade. I will critique each student's presentation immediately after it is over and we'll examine the comments of the audience together.

The remaining 20% of the grade will be based upon the student's participation in the seminars led by their peers (and, perhaps, professors). Attendance, questions asked of presenters, and thoroughness of written evaluations of peer presentations will be the factors which will determine this portion of the grade.

There is a long-standing tradition that the speaker(s) bring snacks (most typically donuts, brownies or cookies) for the audience. Failure to do so will certainly prejudice many members of your audience against you.