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Mentoring to New Assistant Professors and Development of a New Astronomy Major [1]

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Your request for the CU teaching scholars to write down their formal "projects" sent me back to the letter I wrote at the time I was nominated to join this group. There, I stressed the importance of blurring the artificial distinction between teaching and research.

As Professor of Astrophysics, and Chair of the APS department at the University of Colorado, Boulder, my efforts the past several years have involved two major "teaching/research projects":

1. Mentoring to our new Assistant Professors.

Following our last departmental strategic plan, I was keen to recruit new faculty members who would help us implement our goal of developing a new undergraduate major in Astronomy and Astrophysics. I have served as APS departmental mentor to two of our latest hires, Dr. Nick Gnedin (theoretical astrophysics) and Dr. Jason Glenn (instrumental astrophysics), both of whom were selected and hired largely due to their impressive interviews and their promise to involve our graduate and undergraduate students in research opportunities in these strategic areas. Through one-on-one discussions about teaching and research proposals, and selective use of matching funds, both young faculty members have developed successful research programs, with key involvement from our students. Gnedin has been awarded 4 grants from NASA and NSF in the last four months, including the prestigious NSF Career Award (for both research and teaching innovation). Glenn has won two NASA grants for his instrumental work in far-infrared and radio astronomy, and is one of two CU nominees for the prestigious Packard Foundation Fellowship. Both have done well in their classroom teaching, and are widely sought as research advisors.

2. Development of a new Astronomy Major.

In 1995, the APS Department at CU, Boulder was invited to develop a new undergraduate degree in Astronomy and Astrophysics. After two years of effort, our degree was approved by the CCHE and Regents effective June 2000. In the past two years, we have grown from zero to 90 undergrad majors, and over 25 minors. We graduated our first class of five BA students in May 2002. My ongoing project for the 2002-03 academic year is to bring our degree program to a steady state of approximately 100 majors, with approximately 20 graduates each year. I intend to make our program one of the top research opportunities for CU undergraduates, using a portion of the $14M in sponsored research funds in astrophysics and planetary sciences and our involvement with the Hubble Space Telescope, NASA's Galileo and Cassini planetary probes, and our new membership in the Apache Point 3.5-meter

telescope as tools to employ our undergrads in observational, experimental, and theoretical research. I want to encourage sizeable numbers of our undergraduates to pursue a senior Honors thesis, working with one of our 25 faculty members and many other researchers within the institutes CASA, JILA, or LASP. Within my own research group, I am currently working with 4 undergraduates, one of whom recently won the Goldwater Fellowship for her work on data from the Hubble Space Telescope and the FUSE satellite.

Groups audience:
President's Teaching Scholars Program

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