

## **Progress Report: “Extra Mixing in Asymptotic Giant Branch Stars and Consequences for Pre-solar Grains”**

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We proposed to identify a visiting scientist and bring this person to Argonne and the University of Chicago for a three-month visit, during which the local groups will initiate collaboration with this individual. Collaborative projects were anticipated to involve nucleosynthesis during late stages of stellar evolution and its signatures in pre-solar grains recovered from meteorites.

We have recruited Amanda Karakas, a theoretical astrophysicist from the Mt. Stromlo Observatory in Australia, to come to Chicago with a Visiting Scholar appointment at Argonne. She is a recognized expert in the evolution of intermediate-mass stars (3 to 8 solar masses), particularly during the asymptotic giant branch (AGB) phase, when many grains form. She arrived in Chicago on July 2 and will stay until September 28. She has desks both in the Physics Division theory group at Argonne and in the Department of Astronomy and Astrophysics at the university, and she has found an apartment to sub-let near the university. Possible collaborative projects involving mixing inside low- and intermediate-mass stars during the AGB phase of their evolution are under discussion, and a focus will be selected shortly.

The proposal included money budgeted for the visiting scientist to travel to a domestic conference; Dr. Karakas will be traveling to the conference “Nuclear Astrophysics 1957-2007: Beyond the First Fifty Years” at the California Institute of Technology during the last week of July. Her presence there will provide an excellent opportunity to advertise both the growing effort in nuclear astrophysics at Argonne and the link between Argonne and the University of Chicago fostered by the Joint Theory Institute.