Workshop

Stellar End Products: The Low Mass - High Mass Connection

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Title:
Planetary Nebulae: a Contemporary (Multiwavelength) Perspective

Abstract:
Planetary nebulae (PNe) are the luminous, ionized shells of ejecta from asymptotic giant branch (AGB) stars in transition to white dwarfs. As such, PNe represent near-endpoints in the lives of intermediate-mass (~1-8 Msun) stars. Long admired for their beauty and their striking variety of morphologies in optical emission line images, many PNe have now been characterized from radio to X-ray regimes. These multiwavelength campaigns, whose exemplars are the Chandra (X-ray) and Herschel (far-IR) Planetary Nebula Surveys (ChanPlaNS and HerPlaNS), are designed to probe the full range of physical conditions present within PNe and, in so doing, are providing insight into PN progenitor systems, shaping processes, and chemical compositions. To illustrate this contemporary (multiwavelength) perspective on PNe, I will describe recent results from ChanPlaNS and HerPlaNS. I also present new, integrated views of the youngest, most rapidly evolving PNe.