

**The Final Days of Burning**  
 Workshop at UC Santa Barbara, March 9-10  
 Program

9-Mar-06

<b>Session 1</b>	<b>Massive Stars</b>	<b>BILDSTEN</b>	
8:30 - 8:40	Lars Bildsten	UCSB	Welcome
8:40 - 9:10	Dave Arnett	University of Arizona	Primer on Massive Stars
9:10 – 9:20	Discussion		
9:20 - 9:50	Allessandro Chieffi	Frascati, Italy	The advanced evolutionary phases of massive stars and their influence on the final abundance yields
9:50 – 10:00	Discussion		
10:00 - 10:20	Falk Herwig	LANL	Progenitor evolution of ONeMg core-collapse supernova
10:20 – 10:30	Discussion		
10:30 - 11:00	<b>Coffee Break</b>		
11:00 - 11:20	Marco Pignatari	U. Torino, Italy	The Weak s-process after Core He Burning: the convective shell C-burning contribution
11:20 – 11:30	Discussion		
<b>Session 2</b>	<b>Weak Interaction</b>	<b>AUSTIN</b>	
		TU-Darmstadt, Germany	
11:30 – 12:00	Karlheinz Langanke		Primer on Weak Interaction Physics
12:00 – 12:10	Discussion		
12:10 - 1:30	<b>Lunch in Kohn Hall Court Yard</b>		
	Gabriel Martinez-Pinedo	GSI Darmstadt, Germany	Electron Capture on Core Collapse Supernova
1:30 – 1:50			
1:50 – 2:00	Discussion		
2:00 - 2:20	Raph Hix	ORNL	The Role of Nuclear Electron Capture during Stellar Core Collapse
2:20 – 2:30	Discussion		
2:30 – 2:50	Remko Zegers	NSCL/MSU	Charge-exchange reactions as a tool to extract weak rates for astrophysics
2:50 – 3:00	Discussion		
3:00 - 3:20	<b>Coffee Break</b>		

### Session 3 Nuclear Reaction Processes (SCHATZ)

3:20 - 3:50	Michael Wiescher	University of Notre Dame	Nuclear Reactions in Stellar Burning density stellar environments
3:50 - 4:00	Discussion		
4:00 - 4:20	Christian Diget	U. Arhus, Danmark	Status of the Triple Alpha reaction
4:20 - 4:30	Discussion		
4:30 - 4:50	Carl Brune	Ohio University	The Stellar $^{12}\text{C}+\alpha$ Fusion Rate: Present Uncertainties and Prospects for their Reduction
4:50 - 5:00	Discussion		
5:00 - 5:30	Collective Discussion (led by Bildsten and Schatz)		

6:30 Dinner at El Paseo in Downtown Santa Barbara

10-Mar-06

The second day will be devoted to discussions on topics relevant for the understanding and interpretation of late stellar pre-supernova evolution. The following topics have been suggested, but more topics can be identified during the collective discussion after the third session of the first day.

8:30 am

1. Triple  $\alpha$  and  $^{12}\text{C}(\alpha,\gamma)$  rates  
Do we have to know more than the properties of the Hoyle State?  
For SNII, is absolute value of the 3 alpha rate important or only its ratio to  $^{12}\text{C}(\alpha,\gamma)$ ?  
Chair: Sam Austin
  2. What is the origin of  $^{60}\text{Fe}$ ?  
What is the importance as a diagnostics of a supernova explosion  
Chair: Alessandro Chieffi
  3. Is there a possible set (small) of properties that characterize a progenitor as regards to the ensuing explosion  
Chair: Dave Arnett
- 10:00-10:30: COFFEE
4. What are the best cases for validating model calculations for B(GT) in the  $A>60$  mass range; what measurements are possible  
Chair: Karlheinz Langanke
  5. What are the best cases for validating model calculations of forbidden strength; what measurements are possible.  
Chair: Remco Zegers
  6. How reliable are calculations of neutrino cross sections?  
Chair: Gail McLaughlin

12:00 Lunch

Meeting adjourns