

**ECT\* Workshop on:**  
**“Advances and Challenges in Nuclear Astrophysics”**  
**24-28 May 2004**  
**PROGRAM**

**Monday 24 May 2004:**

1. Carl Brune (Ohio): The R-matrix model: application to the  $^{12}\text{C}(\alpha,\gamma)^{16}\text{O}$  reaction
2. Hanns-Peter Trautvetter (Bochum): Recent experiment at the LUNA facility at Gran Sasso.
3. Art Champagne (TUNL/North Caroline): The  $^{14}\text{N}(\text{p},\gamma)^{15}\text{O}$  at LENA.
4. Stefan Typel (GSI): The Trojan Horse method for nuclear astrophysics
5. Claudio Spitalieri (Catania): Study of the  $^{11}\text{B}(\text{p},\alpha)^8\text{B}$  reaction via the Trojan Horse Method
6. Calvin Johson (San Diego State): Can we trust the random phase approximation?
7. Tohru Motobayashi (RIKEN): Application of intermediate-energy Coulomb excitation to astrophysical reactions
8. Alain Coc (CSNSM, Orsay): Updated Big Bang nucleosynthesis confronted with WMAP and the abundance of light elements
9. Roland Diehl (MPI Garching): Gamma-ray line astronomy and cosmic nucleosynthesis

**Tuesday 25 May 2004:**

10. Daniel Baye (PNTTPM, ULB): Radiative capture models near zero energy
11. Marek Ploszajczak (GANIL): Microscopic theory of unstable nuclei
12. Natasha Timofejuk (Surrey): Relation between ANC for mirror decays at its relevance for astrophysics
13. Jordi José (Barcelona): Novae as cataclysmic stellar events
14. Christian Iliadis (TUNL/North Caroline): Nuclear reaction rates in novae and impact on nova nucleosynthesis
15. F.-K. Thielemann (Basel): X-ray bursts and waiting points in the rp-process
16. Barry Davids (TRIUMF): Indirect methods in experimental nuclear astrophysics
17. Alison Laird (York): Exploding stars in the laboratory
18. Alexander S. Murphy (Edinburgh): Some nuclear reaction of relevance for novae and X-ray bursters

**Wednesday 26 May 2004:**

19. Jeff Blackmon (ORNL, Oak Ridge): Nuclear reaction studies with radioactive ion beams
20. Marianne Dufour (IREs, Strasbourg): The  $^{17}\text{F}(p,\gamma)^{18}\text{Ne}$  reaction at stellar energies
21. Stephane Goriely (IAA, ULB): Reaction rate calculations for nucleosynthesis applications
22. Zsolt Fülöp (ATOMKI, Debrecen, Hungary): The nuclear physics aspect of the astrophysical p-process
23. Henry Weller (TUNL, USA): Accomplishments and Opportunities in Nuclear Astrophysics at the High Intensity Gamma-Ray Source
24. Hiroaki Utsunomiya (Konan University, Japan): Photoreaction Studies for Astrophysics
25. Gabriel Martinez Pinedo (Barcelona): Weak interaction processes in stars
26. Gail MacLaughlin (NC State): Neutrino nucleosynthesis processes
27. Ulrich Geppert (Potsdam): The crusts of neutron stars - nuclear physics meets astronomy
28. Fridolin Weber (CalState SD): The Nuclear Equation of State of Compact Stars

**Tuesday 27 May 2004:**

29. Gianni Fiorentini (INFN-Ferrara, Italy): Nuclear fusion in the Sun, after KamLAND and SNO
30. Arnd Junghans (Rossendorf, Germany): Status of the  $^7\text{Be}(p,\gamma)^8\text{B}$  S-factor
31. Klaus Suemmerer (GSI): High-energy Coulomb dissociation experiments at GSI
32. Michael Hass (Weizmann Inst., Rehovot): A new determination of the  $^3\text{He}(\alpha,\gamma)^7\text{Be}$  solar fusion reaction
33. Takahisa Itahashi (Osaka): Experimental challenges of fusion reactions in nuclear astrophysics
34. Hendrik Schatz (NSCL/MSU): Experimental questions and challenges for the r-process
35. Olivier Sorlin (IPN, Orsay): Neutron capture and decay processes
36. Joachim Goerres (Notre-Dame): Di-neutron capture
37. Igor Panov (Moscow): Nuclear fission and r-process termination

**Friday 28 May 2004:**

38. Alessandro Chieffi (IASF, Frascati): The evolution of massive stars

39. Maurizio Busso (Torino): Nucleosynthesis in AGB stars
40. Franz Käppeler (FZ Karlsruhe): Experimental questions and challenges for the s-process
41. Michael Heil (n-TOF CERN): Neutron sources for the s-process