

**Program: Simulating the Supernova Neutrinosphere with Heavy Ion Collisions  
ECT\* Trento, Italy, April 7-11, 2014  
All talks are 30 min long, except as noted.**

**9:30 to 12:45 Monday morning: Introduction**

W. Lynch (MSU): Introduction to heavy ion collisions (HIC) (45 min)

10:45 to 11:15 Coffee break

E. O'Connor (Tronto): Introduction to supernovae (SN) and SN simulations (45 min)

D. Blaschke (Wroclav): Introduction to equation of state (EOS) for supernovae, compact stars, and HIC applications (45 min)

**14:30 to 18:00 Monday afternoon: Equation of state and symmetry energy**

G. Verde (Catania): Space-time properties of dynamical sources in Heavy-Ion collisions

A. Bonasera (Texas A&M): (Density and temperature determinations in HIC)

15:40 to 16:10 Coffee break

A. Chbihi (GANIL): Exploring the symmetry energy with isospin effects in heavy-ion collisions

C. Froehlich (N. Carolina State): Neutrinos and supernova nucleosynthesis

Discussion (leader C. Horowitz): Plans for the week, questions/issues for discussion.

**9:30 to 12:20 Tuesday morning: SN and probing SN conditions with HIC**

E. Lentz (Tennessee): (Supernova simulations)

T. Fischer (Wroclav): Protoneutron star deleptonization - role of the nuclear symmetry energy

10:40 to 11:10 Coffee break

M. Hempel (Basel): EOS effects in core-collapse supernovae

S. Yennello (Texas A&M): Asymmetry dependence of the nuclear caloric curve

**14:20 to 18:00 Tuesday afternoon: Probing SN matter with HIC**

S. Reddy (INT Seattle): Colloquium: "Supernova Neutrinos: Challenges and its physics potential" (50 min)

15:20 to 15:50 Coffee break

E. Bonnet (GANIL): Vaporization event properties to constrain low-density warm matter

W. Trautmann (GSI): Low-density matter probed in multifragmentation reactions

Discussion: Building nuclear and astrophysics communities

**9:30 to 12:20 Wednesday morning: Light clusters in HIC**

K. Hagel (Texas A&M): Clusterization and medium effects in low-density nuclear matter

J. Natowitz (Texas A&M): Pastina formation in neutron rich nuclear skins

10:40 to 11:10 Coffee break

A. Ono (Tohoku): Light cluster production in Anti-symmetrized Molecular Dynamics (AMD)

P. Napolitani (Orsay): Fluctuation and fragment production in HIC; Boltzmann-Langevin approach

**14:20 to 18:00 Wednesday afternoon: Light clusters in HIC continued**

M. Barbui (Texas A&M): Exploring the alpha cluster structure of nuclei using the thick target inverse kinematics technique for multiple alpha decays

S. Typel (GSI): Clustering in dilute matter and equation of state

15:30 to 16:00 Coffee break

A. Raduta (Bukarest): Clusterized nuclear matter in the (proto-) neutron star crust and the symmetry energy

G. Roepke (Rostock): Few-particle correlations in nuclear systems

Discussion (leader H. Wolter): light clusters in HIC and astrophysics

**9:30 to 12:20 Thursday morning: SN, neutrino emission, and nucleosynthesis**

B. Mueller (Garching): The Role of Neutrinos in Supernovae

G. Shen (TU Darmstadt): (Neutrino response of warm low-density matter)

10:40 to 11:10 Coffee break

G. Martinez-Pinedo (TU Darmstadt): Nucleosynthesis in Neutrino Winds

A. Wuosmaa (U. Connecticut): Studying the properties of neutron-rich light nuclei

**14:20 to 18:00 Thursday afternoon: neutrinos and nucleosynthesis**

G. McLaughlin (N. Carolina State): Neutrinos from black-hole accretion disks

S. Wanajo (NAO, Japan): (r-process in SN and neutron star mergers)

15:30 to 16:00 Coffee break

TBA: Informal talk on SN neutrino oscillations and SN neutrino detection.

Discussion (leader L. Roberts): Neutrinos in SN and nucleosynthesis

**9:30 to 12:20 Friday morning: Nuclear structure related to SN and HIC**

A. Mukherjee (ECT\*): Quantum Monte Carlo calculations for the equation of state with chiral interactions

S. Shlomo (Texas A&M): Modern energy density functional and the equation of state of symmetric and asymmetric nuclear matter

10:40 to 11:10 Coffee break

T. Gaitanos (Giessen): Participant and spectator decay in HIC

Discussion (leaders J. Natowitz + C. Horowitz): A way forward, possible experimental program, and homework assignments

13:00 End of the workshop