Nucleosynthesis 2000

Division of Nuclear Chemistry and Technology
220th National ACSMeeting
Washington, D.C.
D. S. Brenner, Program Chair

PROGRAM

Organizers: **A. Aprahamian - University of Notre Dame**
E.B. Norman - Lawrence Berkeley National Laboratory

Monday August 21, 2000

Session 1: Solar Neutrinos and Hydrogen Burning
Session Chair: E. B. Norman-Lawrence Berkeley National Laboratory

8:00-8:30	Solar models: Helioseismic comparisons vs. the solar neutrino problem, **C.M. Neuforge**, J.A. Guzik, A.C. Young, R.I. Epstein
8:30-9:00	Solar neutrinos: An overview, **J.N. Bahcall**
9:00-9:30	Testing the ANC method, **F.M. Nunes**
9:30-10:00	Precision measurements of ^{17}S with radioactive beams, **M. Gai**
10:00-10:15	Intermission.
10:15-10:45	Direct measurements of the nuclear reaction ^{7}Be(p, γ) ^{8}B, **U. Greife**
10:45-11:15	Seattle-Triumf ^{7}Be(p,γ)^{8}B experiment, **K.A. Snover**, A. R. Junghans, E.C. Mohrmann, T.D. Steiger, E.G. Adelberger, H.E. Swanson, L.R. Buchmann, S.Park, A. Zyuzin
11:15-11:45	Evaluation of some charged particle induced thermonuclear reaction rates, **H.R. Weller**, T. TUNL Radiative Capture Group
11:45-12:15	^{14}N(p,γ)^{15}O at low stellar temperatures, **A.E. Champagne**

Session 2: He Burning and Neutron Capture Processes (s-process)
Session Chair: K. Langanke-Aarhus University

1:15-1:45	Nuclear reactions in the helium burning phase of stars, **J.W. Hammer**, R.Kuntz, M.Jaeger, A. Mayer, G. Staudt, S. Harissopulos, G. Souliotis, T. Paradellis, K. Kratz, B. Pfeiffer
1:45-2:15	Evaluated cross sections for BBN and helium-burning reactions, **G.M. Hale**, A.S. Johnson
2:15-2:45	Topics in stellar He burning, **J. Goerres**
2:45-3:15	^{12}C(α,γ) and the ^{13}C(α, n) reactions in stellar helium burning, **M. Wiescher**
3:15-4:00	Intermission.

4:00-4:30	Stellar s-process rates of radioactive isotopes: Impact, measurements, and perspectives, **F. Käppeler**
4:30-5:00	Measurements of the astrophysical rates for the $^{192,194,195,196}Pt(n,\gamma)$ reacions, **P.E. Koehler**, J.A. Harvey, S. Raman, K.H. Guber, R.R. Winters, J.A. Becker

Tuesday August 22, 2000

Session 3: Binaries and Radioactive Ion Beams

Session Chair: S. W. Yates-University of Kentucky

8:300-9:00	Mass measurements along the rp-process path: Results of recent measurements, **D. S. Brenner**
9:00-9:30	$^{39}Ca(p,\gamma)^{40}Sc$ reaction in a microscopic model, **P. Descouvemont**
9:30-10:00	Effects of beta-delayed proton emission on the rp-process, **R. N. Boyd**
10:00-10:30	Intermission.
10:30-11:00	Charge particle reactions for rapid hydrogen and helium burning, **A. C. Shotter**
11:00-11:30	Nuclear astrophysics with radioactive beams at Louvain-la-Neuve, **C. Angulo**
11:30-12:00	Gamma ray spectroscopy with the Notre Dame radioactive beam facility, **S. M. Vincent**, A. A. Aprahamian, J. J. Kolata, V. Guimaraes, R. C. de Haan, D. Peterson, P. Santi, A. Teymurazyan, F. D. Becchetti, M. Y. Lee, T. W. O'Donnell, D. A. Roberts, J. A. Brown, J. Zimmerman

Session 4: Neutron Capture Processes (r-process)

Session Chair: F. Käppeler-Karlsruhe

1:45-2:15	Stellar heavy element abundances and ages, **J. J. Cowan**
2:15-2:45	Shell-model half-lives of r-process waiting-point nuclei, **G. Martínez-Pinedo**, K. Langanke
2:45-3:15	Role of neutrinos in r-process nucleosynthesis, **A. B. Balantekin**
3:15-3:45	Nuclear shell effects near the r-process path, **M. M. Sharma**
3:45-4:00	Intermission.
4:00-4:30	Stellar and nuclear-physics constraints on two r-process components in the early Galaxy, **K. Kratz**, B. Pfeiffer, F. Thielemann
4:30-5:00	Shell model structure around ^{132}Sn, **B. A. Brown**
5:00-5:30	Forbidden and Gamow-Teller decay of N = 82 and N = 126 closed neutron shell nuclei, **W. B. Walters**, K. Kratz
6:30	Wine Reception.

Wednesday August 23, 2000

Session 5: Novae and Supernovae

Session Chair: K.L. Kratz - University of Mainz

9:00-9:30	Nucleosynthesis in novae, **C. Iliadis**
9:30-10:00	Classical novae: A laboratory for nuclear astrophysics, **J. Jose**, M. Hernanz
10:00 -10:30	Hydrogen and helium burning on accreting neutron stars, **H. Schatz**
10:30-10:45	Intermission.

10:45-11:15	Probing stellar explosions with radioactive beams at ORNL, **M. S. Smith** (talk presented by A.E. Champagne for M.S. Smith)
11:15-11:45	Stellar weak interaction rates, **K. Langanke**, G. Martínez-Pinedo
11:45-12:15	Nucleosynthesis in massive stars and galactic chemical evolution, **R. D. Hoffman**

Session 6: Supernovae

Session Chair: A. E. Champagne-UNC

2:30-3:00	Presolar grains from meteorites: A new window to the stars, **E. K. Zinner**
3:00-3:30	Isotopic structures in meteorite grains of presolar origin: Records of nucleosynthesis processes in stars, **U. Ott**
3:30-4:00	Evidence for the accelerated expansion of the universe based on type Ia supernovae, **G. Goldhaber**