

# NAPS2024 program 20-22 Feb. 2024

**Tuesday, February 20, 2024**

8:15 –	Bus leaves from Hotel “Terrace Inn Katsuta” to the workshop venue	
9:00 – 9:20	Registration	
9:20 – 9:30	Opening	
<b>Big Bang Nucleosynthesis (BBN)</b>		<b>Chair: Taka Kajino</b>
9:30 – 9:55	Seiya Hayakawa (CNS, Univ. of Tokyo)	Measurements of the ${}^7\text{Be}$ -destructive reactions relevant to the primordial ${}^7\text{Li}$ abundance
9:55 – 10:20	Naohito Iwasa (Tohoku Univ.)	The ${}^7\text{Be}(n,p_1){}^7\text{Li}^*$ reaction relevant to the cosmological lithium problem studied with the ${}^9\text{Be}({}^3\text{He},\alpha){}^8\text{Be}(p){}^7\text{Li}$ and ${}^7\text{Li}({}^3\text{He},d){}^8\text{Be}(p){}^7\text{Li}$ reactions
10:20 – 10:45	Masaya Homma (Hokkaido Univ.)	Possible solution of ${}^7\text{Li}$ problem with dilute gas-like $\alpha+{}^3\text{He}+t$ resonance
10:45 – 11:15-	Discussion (BBN)	Convenors: N. Iwasa, S. Kubono, and T. Kajino
11:15 – 11:35	Break (20)	
<b>Stellar Evolution (1)</b>		<b>Chair: Shigeru Kubono</b>
11:35 – 11:55	Takashi Teranishi (Kyushu Univ.)	Determining the pair and radiative decay branching ratios of the Hoyle state: Test experiments at Kyushu University
11:55 – 12:20	Kosuke Sakanashi (Osaka Univ.)	Measurement of the $\gamma$ Decay Probability of the Hoyle State
12:20 – 12:40	Toshitaka Kajino (Beihang Univ.)	Deexcitation reactions of Hoyle state in ${}^{12}\text{C}$ and CEX reactions for the production of p-nuclei in hypernove nucleosynthesis
12:40 – 14:00	Lunch	
<b>Stellar Evolution (2)</b>		<b>Chair: Aurora Tumino</b>
14:00 – 14:25	Weiping Liu (Southern Univ.)	Progress of nuclear astrophysics JUNA experiments in deep underground laboratory
14:25 – 14:50	Hiroyuki Makii (JAEA)	Measurement of ${}^{12}\text{C}(\alpha,\gamma){}^{16}\text{O}$ reaction using intense pulsed $\alpha$ beams
14:50 – 15:10	Myung-Ki Cheoun (Soongsil Univ.)	Revisit of Gamow Window in the Stellar Burning
15:10 – 15:30	Break (20)	
<b>Stellar Evolution (3)</b>		<b>Chair: Weiping Liu</b>
15:30 – 15:55	Aurora Tumino	Sub-Coulomb nuclear studies using the Trojan Horse Method
15:55 – 16:20	Xiaodong Tang	The ${}^{12}\text{C}+{}^{12}\text{C}$ fusion reaction at stellar energies
16:20 – 16:45	Yasutaka Taniguchi (NIT, Kagawa Col.)	The ${}^{12}\text{C}+{}^{12}\text{C}$ fusion reaction rate from a microscopic nuclear model
16:45 – 17:05	Break (20)	

Stellar Evolution (4)		Chair: Hiroyuki Makii
17:05 – 17:30	Nozomu Tominaga	Nucleosynthesis in the stellar evolution and supernovae
17:30 – 17:50	Nobuya Nishimura (ABBL, RIKEN)	The impacts of nuclear-physics uncertainties on explosive nucleosynthesis in core-collapse supernovae
17:50 – 18:20	Discussion (Stellar Evolution) Convenors: W. Liu, X. Tang, and H. Makii	
19:00 –	Dinner (Move to Hotel “Terrace Inn Katsuta” by bus)	

## Wednesday, February 21, 2024

8:15 –	Bus leaves from Hotel “Terrace Inn Katsuta” to the workshop venue	
Fission recycle for r-process (1)		Chair: Katsuhisa Nishio
9:10 – 9:35	Matthew Mumpower (LANL)	Hints of nuclear fission in the cosmos
9:35 – 10:00	Shota Shibagaki	Astrophysical sites for the r-process and role of fission
10:00 – 10:25	Yoshihiro Aritomo (Kindai Univ.)	Extensive systematic study of fission process in heavy and superheavy mass regions (2095 nuclei) related to r-process nucleosynthesis
10:25 – 10:45	Break (20)	
Fission recycle for r-process (2)		Chair: Hiroyuki Koura
10:45 – 11:05	Yoshikazu Hirayama (KEK)	KISS and upgraded facility to explore the origin of heavy elements synthesized by r-process
11:05 – 11:25	Kentaro Hirose (JAEA)	Measurement of fission properties of actinides by in-beam technique
11:25 – 11:45	Masato Asai (JAEA)	Spontaneous fission of neutron-rich actinide nuclei measured using JAEA-ISOL
11:45 – 12:05	Zhenyu He (Univ. of Tokyo)	Coexistence of Nucleosynthesis Products From r-, i-, and s-processes in the Collapsar Jet
12:05 – 12:35	Discussion (Fission) Convenors: K. Nishio, H. Koura, and T. Kajino	
12:35 – 14:00	Lunch	
s-process		Chair: Xiaodong Tang
14:00 – 14:25	Nobuyuki Iwamoto (JAEA)	The key problems of stellar evolution and nuclear physics for the s-process
14:25 – 14:50	Shengquan Yan (CIAE)	The unstable nuclei in s-process
14:50 – 15:10	Takehito Hayakawa (QST)	Half-life of $^{176}\text{Lu}$ for s and gamma process chronometers
15:10 – 15:40	Discussion (s-process) Convenors: S.Q. Yan, X. Tang, and S. Ahn	
16:00~	Tandem Tour	
~18:00	Move to Hotel “Terrace Inn Katsuta” by Bus	

## Thursday, February, 22, 2024

8:15 –	Bus leaves from Hotel “Terrace Inn Katsuta” to the workshop venue	
rp-process (1)		Chair: Sunghoon Ahn
9:10 – 9:35	Yi Hua Lam (IMP, CAS)	The Benchmark of Type-I X-ray Clocked Burster: GS 1826-24
9:35 – 10:00	Daisuke Suzuki (RIKEN Nishina Center)	Studies on explosive burnings around $^{56}\text{Ni}$ at the RI Beam Factory
10:00 – 10:25	Kyungyuk Chae (Sungkyunkwan Univ.)	Transfer reaction measurements for X-ray bursts
10:25 – 10:45	Break (20)	
rp-process (2)		Chair: Kyungyuk Chae
10:45 – 11:10	Sunghoon Ahn (CENS/IBS)	Nuclear reaction studies involved in nucleosynthesis using CENS devices
11:10 – 11:35	Sota Kimura (WNSC, IPNS, KEK)	Precision mass measurements of proton-rich nuclei with MRTOF-MS to understand rp-process
11:35 – 11:55	Akira Dohi (RIKEN ABBL/iTHEMS)	EOS Dependence of Type-I X-ray Bursts
11:55 – 12:25	Discussion (rp-process) Convenors: K. Chae, S. Ahn, and S. Kubono	
12:25	Closing	
12:35~	Lunch	