

YITP-OzGrav WS “Nuclear burning in massive stars” — towards formation of black-hole binaries —

26—30 July 2021: Online



Website

26 July (Mon)

AEST 11:00 JST 10:00	(5)	Opening	Organisers
Session 1: Stellar evolution and supernovae (1): 1:00—3:05 UTC			Chair: R. Hirai
AEST 11:05 JST 10:05	(40)	“Stellar Evolution and Nucleosynthesis”	A. Heger
AEST 11:45 JST 10:45	(20)	“Differential rotation in massive stars”	L. McNeill
AEST 12:05 JST 11:05	(20)	“Precollapse Shell Burning in the Silicon- and Oxygen-rich Layers in Massive Stars”	T. Yoshida
AEST 12:25 JST 11:25	(20)	“The role of magnetic fields during convective Oxygen shell burning in CCSN progenitors”	V. Varma
AEST 12:45 JST 11:45	(20)	“Simulations of black hole formation and nucleosynthesis in Core collapse supernovae with relativistic turbulent mixing”	G. Mathews
Lunch break			
Session 2: Stellar evolution and supernovae (2): 4:30—7:20 UTC			Chair: N. Nishimura
AEST 14:30 JST 13:30	(40)	“3D simulations of core-collapse supernovae”	J. Powell
AEST 15:10 JST 14:10	(20)	“Supernovae explosions in AGN discs”	E. Grishin
AEST 15:30 JST 14:30	(20)	“Stability of collapsing protoneutron stars and gravitational waves”	H. Sotani
Remote coffee break			
AEST 16:20 JST 15:20	(40)	“Where are PISNe?”	K. Takahashi
AEST 17:00 JST 16:00	(20)	“Galactic chemical evolution and the origin of the elements”	C. Kobayashi
AEST 17:20 JST 16:20	(10)	Poster Short talks	

Poster Session with Drinks/Foods at Remo (TBA)

27 July (Tue)

Session 3: Black hole formation and galaxies: 1:00—3:20 UTC			Chair: K. Ioka
AEST 11:00 JST 10:00	(40)	“Remnants of first stars for gravitational wave sources”	T. Kinugawa
AEST 11:40 JST 10:40	(20)	“R-process nucleosynthesis in GW170817 in the context of metal-poor stars”	A. Ji
AEST 12:00 JST 11:00	(20)	“Neutron-capture elements in ultrafaint dwarf galaxies”	Y. Tarumi
AEST 12:20 JST 11:20	(40)	“Binary Black Hole Mergers Originated from Star Clusters”	M. Fujii
AEST 13:00 JST 12:00	(20)	“Gaia's Detectability of Black Hole-Main Sequence Star Binaries Formed in Open Clusters”	M. Shikauchi
Lunch break			
Session 4: Nuclear astrophysics (1): 4:30—7:40 UTC			Chair: N. Iwamoto
AEST 14:30 JST 13:30	(20)	“Isotopic abundance: the key to understand the origin of heavy elements”	Y. Yamazaki
AEST 14:50 JST 13:50	(20)	“Roles of fission and nuclear reactions in collapsar, neutron star merger and supernova”	T. Kajino
AEST 15:10 JST 14:10	(20)	“Nuclear burning in collapsar accretion discs”	Y. Zenati
AEST 15:30 JST 14:30	(20)	“Application of relativistic energy density functional theory in description of stellar weak-interaction rates”	A. Ravlic
Remote coffee break			

Remote coffee break

AEST 16:20 JST 15:20	(40)	“Triple alpha reaction rate under extreme conditions”	T. Kawabata
AEST 17:00 JST 16:00	(40)	(12C(a,g)16O experiment)	T. Shima

28 July (Wed)

Session 5: Binary stars to compact binaries: 1:00—3:00 UTC

Chair: S. Stevenson

AEST 11:00 JST 10:00	(40)	“ Black Hole Archaeology ” → Session 8	J. Sakstein
AEST 11:40 JST 10:40	(40)	“Uncertainties in predicting gravitational wave transients from binary population synthesis”	J. J. Eldridge
AEST 12:20 JST 11:20	(20)	“‘Nickel Mass Problem’ in the CCSN Explosion Mechanism, and Neutrino-Driven Wind Model as a Solution to it.”	R. Sawada
AEST 12:40 JST 11:40	(20)	“Reconstructing Neutron Star Masses from Metal-Poor Stars”	E. Holmbeck

Lunch break

Session 6: Neutron stars and X-ray astronomy: 4:30—7:40 UTC

Chair: I. Mandel

AEST 14:30 JST 13:30	(40)	“Population of X-ray binaries and black holes in globular clusters”	A. Bahramian
AEST 15:10 JST 14:10	(40)	“Constraining neutron star parameters by modelling X-ray bursts”	A. Goodwin

Remote coffee break

AEST 16:20 JST 15:20	(20)	“Impact of neutron star structure and cooling on Type-I X-ray burst”	A. Dohi
AEST 16:40 JST 15:40	(20)	“Uncertainties in the $^{18}\text{F}(p, \alpha)^{15}\text{O}$ reaction rate in classical novae”	D. Kahl
AEST 17:00 JST 16:00	(20)	“XRISM’s observations of Eta Carinae”	Y. Maeda
AEST 17:20 JST 16:20	(20)	“Limits on ECSN channels from pulsar speed observations”	R. Willcox

AEST 19:00 JST 18:00	(120+)	 Virtual Banquet at Remo	
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29 July (Thu)

Session 7: Nuclear astrophysics (2): 1:00—3:00 UTC

Chair: N. Itagaki

AEST 11:00 JST 10:00	(40)	“Theoretical description of $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$: Difficulties and challenges”	W. Horiuchi
AEST 11:40 JST 10:40	(40)	“ $^{12}\text{C} + ^{12}\text{C}$ Fusion S-factor from a Full-microscopic Nuclear Model”	Y. Taniguchi
AEST 12:20 JST 11:20	(20)	“Pulsational Pair-Instability Supernovae, Magnetar Nucleosynthesis, and Other Sites”	M. Famiano
AEST 12:40 JST 11:40	(20)	“High-entropy ejecta plumes in Cassiopeia A from neutrino-driven explosion”	T. Sato

Lunch break

Session 8: Gravitational-wave astronomy: 4:30—7:30 UTC

Chair: K. Kyutoku

AEST 14:30 JST 13:30	(40)	“LIGO-Virgo observations of gravitational waves: the emerging picture of the binary black hole population”	S. Galadage
AEST 15:10 JST 14:10	(40)	“Gravitational-waves from binary black holes: The interplay of theory and observation”	P. Ajith

Short break (10)

AEST 16:00 JST 15:00	(40)	“Black Hole Archaeology”	J. Sakstein
AEST 16:40 JST 15:40	(20)	“Gravitational wave backgrounds from coalescing black hole binaries at cosmic dawn”	K. Inayoshi
AEST 17:00 JST 16:00		<u>closing</u>	

30 July (Fri)

Open discussion: at Remo

AEST 11:00 (120) Discussion at Remo (coordinator: N. Nishimura)
JST 10:00

Lunch break

AEST 14:00 (300) Free discussion: Remo room opens afternoon (5 hours)
JST 13:00

Update
25 July 2021
26 July 2021
27 July 2021