

Session Program

23-27 Mar 2026

**Collective Neutrino Oscillations in
Supernovae and Neutron Star Mergers**

Talks

Institute of Physics, Academia Sinica, Taiwan
No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

Monday 23 March

09:30

Talks: Monday 1st Session

Session |

Location: Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

09:30-10:20

Core-collapse Supernova Theory: Knowns and Unknowns

Speaker

Hans-Thomas Janka

10:20

10:50

Talks: Monday 2nd Session

Session |

Location: Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

10:50-11:30

Charged current neutrino interaction rates and the nuclear equation of state - mean field approach and beyond

Speaker

Tobias Fischer

11:30-12:10

Diagnosing electron-neutrino lepton number crossings and their sensitivity to supernova core physics

Speaker

Marie Cornelius Hansen

12:10

14:00

Talks: Monday 3rd Session

Session |

Location: Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

14:00-14:40

Role of fast flavor conversion on core-collapse supernovae informed with the classical Boltzmann transport

Speaker

Ryuichiro Akaho

14:40-15:20

Exploring the Effects of Collective Flavor Oscillation in Core-Collapse Supernova Simulations

Speaker

Tianshu Wang

15:20

15:50

Talks: Monday 4th session

Session |

Location: Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

15:50-16:30

Impact of neutrino flavor conversions in core-collapse supernovae - dependence on location, time, and progenitor

Speaker
Jakob Ehring

16:30-17:10

3D supernova models with phenomenological treatment of neutrino flavor conversions

Speaker
Kanji Mori

17:10

Tuesday 24 March

09:30

Talks: Tuesday 1st Session
Session | **Location:** Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

09:30-10:20
Neutrino Quantum Kinetics: Status and Perspectives in Supernovae and Neutron Star Mergers
Speaker
 Hiroki Nagakura

10:20-11:00 **Quantum kinetic simulations of fast neutrino flavor conversions**
Speaker
 Zewei Xiong

11:00

11:30

Talks: Tuesday 2nd Session
Session | **Location:** Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

11:30-12:00
Role of Matter Inhomogeneity on Fast Flavor Conversion of Supernova Neutrinos
Speaker
 Soumya Bhattacharyya

12:00-12:30
Fast Neutrino-Flavor Conversion with Attenuation and Global Lepton Gradient
Speaker
 Masamichi Zaizen

12:30

14:00

Talks: Tuesday 3rd Session
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14:00-14:50 **Theory of neutrino flavor plasma**
Speaker
 Damiano Fiorillo

14:50-15:30
Linear Analysis and Nonlinear Asymptotics of Neutrino Flavor Conversions: Recent Developments
Speaker
 Jiabao Liu

15:30

16:00

Talks: Tuesday 4th Session
Session | **Location:** Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

16:00-16:40 **Slow flavor conversion in core-collapse supernovae**

16:40

Speaker
Ian Padilla-Gay

Wednesday 25 March

09:30

Talks: Wednesday 1st Session

Session |

Location: Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

09:30-10:20

Unifying Mean-Field and Many-Body Neutrino Quantum Kinetics with Tensor Networks (remote)

Speaker

Sherwood Richers

10:20-10:50

Quasi-steady states and miscidynamics in once-in-a-lifetime encounter neutrino models

Speaker

Anson Kost

10:50

11:20

Talks: Wednesday 2nd Session

Session |

Location: Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

11:20-11:40

Supernova Neutrinos on Quantum Computers: A Brief Report and Discussion

Speaker

Sajad Abbar

11:40

Thursday 26 March

09:30

Talks: Thursday 1st Session

Session |

Location: Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

09:30–10:20

Neutron Rich Outflows from Neutron Star Mergers and Accretion Induced Collapse of White Dwarfs

Speaker

David Radice

10:20

10:50

Talks: Thursday 2nd Session

Session |

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10:50–11:30

Impact of fast flavor conversion in neutron star mergers with phenomenological prescriptions

Speaker

Oliver Just

11:30–12:00

Neutrino flavor oscillations in neutron star mergers

Speaker

Yi Qiu

12:00

14:00

Talks: Thursday 3rd Session

Session |

Location: Institute of Physics, Academia Sinica, Taiwan, No. 128, Sec. 2, Academia Rd., Nangang Dist., Taipei City 115201, Taiwan (R.O.C.)

14:00–14:50

Neutrinos and Nucleosynthesis of Elements

Speaker

Gabriel Martinez-Pinedo

14:50–15:20

The Impact of Heavy-Flavor Neutrinos on the νr -Process

Speaker

Heamin Ko

15:20

15:50

Talks: Thursday 4th Session

Session |

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15:50–16:20

The advancement of neutrino transport for muonic matter in binary neutron star merger

Speaker

Harry Ho Yin Ng

16:20

Friday 27 March

09:30

Talks: Friday 1st Session

Session |

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09:30–10:10

Quantum Moments and Closures for Neutrino Transport

Speaker

James Kneller

10:10–10:40

Detecting non-axisymmetric ELN crossings through Machine Learning Techniques

Speaker

Madhurima Chakraborty

10:40

11:10

Talks: Friday 2nd Session

Session |

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11:10–11:40

Sufficient and Necessary Conditions for Collective Neutrino Instability

Speaker

Dwaipayan Mukherjee

11:40

14:00

Talks: Friday 3rd Session

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14:00–14:30

Neutrino signal from simulations of core-collapse supernovae with QCD phase transition as diagnostic tool

Speaker

Noshad Khosravi Largani

14:30–15:00

Millisecond proto-magnetars as gamma-ray burst central engines

Speaker

Dhruv Desai

15:00–15:30

Unveiling Magnetar-Powered Supernovae: From Superluminous to Broad-Line Type Ic

Speaker

Ke-Jung (Ken) Chen

15:30

16:00

Talks: Friday 4th Session

Session |

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16:00–16:30

Collective Neutrino-Antineutrino Pairing Oscillations

16:30

Speaker
Shih-Jie Huang