

Session Program

13-15 Jul 2026

Dark Matter and Stars: Multi-Messenger Probes of Dark Matter and Modified Gravity

Contributed talks 2

University of Southampton, Theatre 4A
Building 54, 58 Salisbury Rd, Southampton SO17 1BJ

Monday 13 July

15:30

Contributed talks 2

Session | **Location:** University of Southampton, Ketley room, Building 54, 58 Salisbury Rd, Southampton SO17 1BJ

15:30–15:45

SN1987A constraints on Hadronically Interacting Sub-GeV Dark Matter

Speaker

Zun Wang

15:45–16:00

Orbit-Corrected Multi-Scatter Dark Matter Capture in Diverse Stellar Environments

Speaker

Diogo Capelo

16:00–16:15

Testing bosonic dark matter through white dwarf mass measurements

Speaker

Jorge Castelo Mourelle

16:15–16:30

Dark Compact Object Mimics

Speaker

Zakary Fuaad Buras-Stubbs

16:30–16:45

Dark matter mounds from the collapse of supermassive stars: a general-relativistic analysis

Speaker

Roberto Caiozzo

16:45–17:00

Supermassive BHs seeds from direct collapse of CDM-curvature peaks in Λ CDM

Speaker

Marco Bruni

17:00

Wednesday 15 July

10:30

Contributed talks 2

Session | **Location:** University of Southampton, Ketley room, Building 54, 58 Salisbury Rd, Southampton SO17 1BJ

10:30–10:45 **Generating ultra-compact hybrid stars with bosonic dark matter**

Speaker

Dr. ISHFAQ AHMAD RATHER

10:45–11:00 **Rotating Neutron Stars with Dark Matter Halos**

Speaker

Shafayat Shawqi

11:00–11:15

Gravitational synchronization in bosonic dark matter admixed neutron stars

Speaker

Claudio Cesar Lazarte Melgar

11:15–11:30 **Scalar-Field-Admixed Binary Neutron Star Merger Simulations**

Speaker

Rohan Srikanth

11:30–11:45 **EMRIs as probes of dark matter and neutron star equation of state**

Speaker

Theo Karydas

11:45–12:00 **Dynamical friction on binary stars in the faintest dwarf galaxies**

Speaker

Mr Nicolas Esser

12:00

15:30

Contributed talks 2

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15:30–15:45

High-accuracy binary modelling in scalar-tensor theories of gravity using the self-force approach

Speaker

Andrew Spiers

15:45–16:00

Developing Numerical Techniques to Test Scalar-Tensor Theories of Gravity

Speaker

Dr Andrius Tamosiunas

16:00–16:15 **Compact stars in $f(R, T, L_m)$ gravity**

Speaker

Juan Zárate Pretel

16:15–16:30

Quantum fields in boson star spacetime

Speaker

Qi-Xin Xie

16:30–16:45

Quantum consistency meets number theory to predict dark matter spectra

Speaker

Dr Yu-Dai Tsai

16:45