



# Valencia Workshop on the Small-Scale Structure of the Universe and Self-Interacting Dark Matter

## Wednesday 11 June 2025

### Models of dark matter (9:30-13:00)

time	[id] title	presenter
9:30	[5] Review talk: Self-interacting dark matter candidates in dark sectors	CHU, Xiaoyong
10:10	[151] Self-interacting dark matter and inelasticity	PETRAKI, Kallia
10:30	[34] Profiling Dark Matter Spikes with Gravitational Waves	CHANDA, Prolay Krishna
10:50	[32] Dark matter bound-state formation in the sun	HAMBYE, Thomas
11:10	Coffee break	
11:50	[35] Dark sector to the rescue of large neutrino masses in cosmology	VATSYAYAN, Drona
12:02	[108] Dark Matter in an Evanescent Three-Brane Randall-Sundrum Scenario	MUÑOZ OVALLE, Alejandro
12:14	[37] Color-Flavor Locked SIDM	DE ROS, Lorenzo
12:26	[38] Moderated discussion	

# Friday 13 June 2025

## Models of dark matter (9:20-13:34)

time	[id] title	presenter
9:30	[13] Signatures of Self-Interacting Dark Sectors	BODDY, Kimberly
9:50	[131] What is the mass scale of self-interacting dark matter?	KAHLHOEFER, Felix
10:10	[33] SIDM with low-temperature reheating	BERNAL, Nicolás
10:30	[14] Dynamics of simplified SIDM models during reheating.	DEKA, Kuldeep
10:50	[134] Dark Bondi Accretion Aided by Baryons and the Origin of JWST Little Red Dots	FENG, Wei-Xiang
11:10	Coffee break	
11:50	[133] Two coincidences are a clue: Probing a GeV-scale dark sector	CHUNG, Yi
12:10	[16] Moderated discussion	
12:40	[96] Conclusions of the week	HAI-BO, Yu

## Wednesday 18 June 2025

### Models of dark matter (9:00-12:20)

time	[id] title	presenter
9:00	[103] Review talk (CANCELLED)	SLONE, Oren
9:40	[104] Extracting dark matter physics from the joint luminosity, stellar dispersion, and galaxy-size distribution of Milky Way satellites.	CYR-RACINE, Francis-Yan
10:00	[162] Dark matter spikes with strongly self-interacting particles	IBARRA, Alejandro
10:20	[97] Gravothermalizing into cannibal stars, boson stars, and black holes	RALEGANKAR, Pranjal
10:40	Coffee break	
11:10	[163] Particle production from metric inhomogeneities	GARANI, Raghuveer
11:30	[168] Core Collapse Beyond the Fluid Approximation	GURIAN, James
11:50	[171] Probing the abundance and internal structure of low-mass DM halos with MW satellites in WDM & SIDM scenarios	KARMAKAR, Soumyodipta

# Thursday 19 June 2025

## Models of dark matter (9:30-13:00)

time	[id] title	presenter
9:50	[89] Quantum theory of dark matter scattering	KAMADA, Ayuki
10:10	[91] Successful SIDM without light mediators: a dark pion model	LANDINI, Giacomo
10:30	[90] Production of velocity-dependent pion SIMPs	ZAPATA, Oscar
10:50	Coffee break	
11:30	[36] A portal to the SM for resonant SIMPS	MARSILI, Luca
11:42	[95] Freezing-in Cannibal Dark Matter during early matter domination	CERVANTES HERNANDEZ, Juan Esau
11:54	[51] Confining Dark Sectors: Heavy Quarks and Self-Interactions	DALLA VALLE GARCIA, Giovani
12:06	[94] Ultra-compact Objects of Non-minimally Coupled Dark Matter	BENETTI, Francesco
12:18	[107] Thermal evolution of the excited states in inelastic dark matter models	SILVA MALPARTIDA, Javier
12:30	[110] Moderated discussion	