

# Two in a Million - The interplay of binaries and star clusters

## Conference program

Last update: Sep 14, 2023

Session I - IV (Mon)	Star & Cluster formation
Session IV - VI (Mon, Tue)	Binaries in young stellar populations
Session VII - IX (Tue, Wed)	Interacting binaries in star clusters
Session X - XII (Thu)	Binaries in evolved star clusters
Sessions XIII - XV (Fri)	Gravitational waves
All week	Instrumentation

Monday, Sep 11

<i>Session I</i>	<i>Chair: Julia Bodensteiner</i>	
09:00 - 09:20	<b>Welcome (Sebastian Kamann &amp; Julia Bodensteiner)</b>	
09:20 - 10:00	Abigail Frost (ESO) <i>Star formation and the origin of multiplicity - the individual stellar system perspective</i>	Invited
10:00 - 10:20	Mitchell Stoop (Anton Pannekoek Institute) <i>How the kinematics of massive stars can constrain the birth conditions of massive stars</i>	Contributed
10:20 - 10:40	Matthew De Furio (University of Texas at Austin) <i>Binary Formation in the Orion Nebula Cluster: Investigating the Stellar and Sub-Stellar Population</i>	Contributed
10:40 - 11:10	<b>Coffee break</b>	
<i>Session II</i>	<i>Chair: Carlo F. Manara</i>	
11:10 - 11:35	Oscar Gonzalez (UK Astronomy Technology Centre) <i>VLT-MOONS: near-IR multi-object spectroscopy with the VLT</i>	Invited (remote)
11:35 - 11:55	Ashley Barnes (ESO) <i>Mother of Dragons: A massive and very young binary system in the dragon cloud</i>	Contributed
11:55 - 12:15	Annelotte Derkink (University of Amsterdam - Anton Pannekoek) <i>Binaries at large separation in the young massive star</i>	Contributed

	<i>forming region M17</i>	
12:15 - 12:35	Short poster presentations	
12:35 - 14:00	<b>Catered lunch</b>	
<i>Session III</i>	<i>Chair: Mark Gieles</i>	
14:00 - 14:40	Natalia Lahén (Max-Planck Institute for Astrophysics) <i>Star formation and feedback in dwarf galaxies with multiphase ISM and individual stars</i>	Invited
14:40 - 15:00	Morten Andersen (ESO) <i>Environmental effects on star formation in clusters</i>	Contributed
15:00 - 15:20	Claude Cournoyer-Cloutier (McMaster University) <i>A new framework for feedback from massive binaries in simulations of cluster formation</i>	Contributed
15:20 - 15:40	Mor Rozner (Technion Institute) <i>Binary Evolution &amp; Gravitational wave Mergers in Multiple-population Gas-enriched Globular Clusters</i>	Contributed
15:40 - 16:10	<b>Coffee break</b>	
<i>Session IV</i>	<i>Chair: Michael Hilker</i>	
16:10 - 16:30	Short poster presentations	
16:30 - 16:50	Alexey Bobrick (Technion Institute) <i>Gas-Rich Phase in Globular Clusters: Shaping Stellar Populations</i>	Contributed
16:50 - 17:10	Joseph Armstrong (Chalmers) <i>Investigating the early evolution of star clusters via their 6D kinematics</i>	Contributed
17:10 - 17:30	Andrew Winter (Observatoire de la Côte d'Azur) <i>Companion eccentricity diffusion in globular clusters and the formation of multiple populations</i>	Contributed
17:30 - 17:50	Tinne Pauwels (KU Leuven) <i>The multiplicity properties of massive stars through high-contrast imaging observations</i>	Contributed
17:50 - 18:10	Poojan Agrawal (The University of North Carolina at Chapel Hill) <i>Looking at single and binary populations through the lens of massive stellar evolution</i>	Contributed (Remote)
18:10 - ...	<b>Poster session with Brez'n &amp; beer</b>	

Tuesday, Sep 12

Session V	<i>Chair: Svetlana Hubrig</i>	
09:00 - 09:40	Chen Wang (Max-Planck Institute for Astrophysics) <i>Unlocking star formation and evolution mysteries: insights from young star cluster studies</i>	Invited
09:40 - 10:00	Ignacio Negueruela (Universidad de Alicante) <i>The upper sequence of young open clusters is dominated by binary interaction</i>	Contributed
10:00 - 10:20	Tomer Shenar (University of Amsterdam) <i>Sifting spectroscopic binaries for black holes using spectral disentangling</i>	Contributed
10:20 - 10:40	Federica Nardini (KU Leuven) <i>Characterizing the B-type star population of four galactic young open clusters</i>	Contributed
10:40 - 11:10	<b>Coffee break</b>	
Session VI	<i>Chair: Selma De Mink</i>	
11:10 - 11:30	Taeho Ryu (Max-Planck Institute for Astrophysics) <i>Importance of hydrodynamics in three-body interactions between stars and black holes</i>	Contributed
11:30 - 11:50	Sara Saracino (Liverpool John Moores University) <i>MUSE's look at the binary population content of massive clusters</i>	Contributed
11:50 - 12:10	Max Moe (University of Wyoming) <i>Binary Properties within <math>a &lt; 200</math> AU are Independent of Open Cluster Environment</i>	Contributed
12:10 - 12:30	Athira Menon (Instituto de Astrofisica de Canarias) <i>Separating true-contact from pseudo-contact massive binaries with MESA models and the OGLE survey</i>	Contributed (remote)
12:30 - 14:00	<b>Catered lunch</b>	
14:00 - 15:30	<b>Breakout session 1</b>	
15:30 - 16:00	<b>Coffee break</b>	
Session VII	<i>Chair: Iwona Kotko</i>	
16:00 - 16:40	Tom Maccarone (Texas Tech University) <i>Observations of binary stars in globular clusters</i>	Invited (remote)
16:40 - 17:00	Liliana Rivera Sandoval (University of Texas Rio Grande Valley) <i>Revealing Compact Binaries in 47 Tucanae Through High Cadence FUV Photometry</i>	Contributed

17:00 - 17:20	Pavan Vynatheya (Max-Planck Institute for Astrophysics) <i>What happens after a cluster star is partially disrupted by a stellar-mass black hole?</i>	Contributed
17:20-17:45	Michele Cirasuolo (ESO) <i>The Extremely Large Telescope: the future of European ground-based astronomy</i>	Invited
19:30	<b>Conference dinner</b> <i>Wirtshaus im Braunauer Hof am Isartor (<a href="#">URL</a>, <a href="#">Google Maps</a>)</i>	

Wednesday, Sep 13

<b>Session VIII</b>		<i>Chair: Joshua Speagle</i>	
10:00 - 10:20	Arvind Dattatrey (Aryabhata Research Institute of Observational Sciences) <i>Discovery of extremely low-mass white dwarfs as a companion of blue straggler stars (BSSs) in NGC362</i>	Contributed (remote)	
10:20 - 10:40	Ambreesh Khurana (Tata Institute of Fundamental Research) <i>Stellar binaries and exotic stellar populations in globular clusters</i>	Contributed	
10:40 - 11:00	Andrew Nine (University of Wisconsin-Madison) <i>Chemical Fingerprints of Mass Transfer in Open Clusters</i>	Contributed	
11:00 - 11:30	<b>Coffee break</b>		
<b>Session IX</b>		<i>Chair: Liliana Rivera Sandoval</i>	
11:30 - 11:55	Martin M. Roth (Leibniz-Institute for Astrophysics Potsdam) <i>BlueMUSE</i>	Invited	
11:55 - 12:15	Ivan Cabrera-Ziri (Heidelberg University) <i>How the products of binary evolution influence extragalactic archaeology studies.</i>	Contributed	
12:15 - 12:35	Steffani Grondin (University of Toronto) <i>A New Catalogue of White Dwarf and Main-Sequence Binary Candidates in Milky Way Open Star Clusters</i>	Contributed	
12:35 - 12:55	Elena Balakina (Liverpool John Moores University) <i>Search for high velocity stars as tracers of binary interaction in the globular cluster 47 Tuc</i>	Contributed	
12:55 - 13:20	Antonella Vallenari (INAF, Astronomical Observatory of Padova) <i>Open clusters in WEAVE and 4MOST</i>	Invited (remote)	
<b>Free afternoon</b>			

Thursday, Sep 14

<i>Session X</i>	<i>Chair: Sara Saracino</i>	
09:00 - 09:40	Alison Sills (McMaster University) <i>Star Cluster Evolution -- a review</i>	Invited
09:40 - 10:00	Manuel Arca Sedda (Gran Sasso Science Institute) <i>The formation of intermediate-mass black holes in clusters with up to 1 million stars</i>	Contributed (remote)
10:00 - 10:20	Francisco Aros (Indiana University) <i>Using binaries in globular clusters to catch sight of intermediate-mass black holes</i>	Contributed
10:20 - 10:40	Fraser Evans (University of Toronto) <i>GC Getaways: Extreme velocity stars from compact object binaries in globular clusters</i>	Contributed
10:40 - 11:10	<b>Coffee break</b>	
<i>Session XI</i>	<i>Chair: Jakub Klencki</i>	
11:10 - 11:50	Nate Bastian (Donostia International Physics Centre) <i>Observational Constraints on Cluster Evolution</i>	Invited
11:50 - 12:10	Sven Martens (University of Göttingen) <i>Differences in binary fractions between multiple populations of globular clusters</i>	Contributed
12:10 - 12:30	Johanna Müller-Horn (University of Göttingen) <i>Binaries in the globular clusters 47 Tuc</i>	Contributed
12:30 - 14:00	<b>Catered lunch</b>	
14:00 - 15:30	<b>Breakout session II</b>	
15:30 - 16:00	<b>Coffee break</b>	
<i>Session XII</i>	<i>Chair: Shanika Galadage</i>	
16:00 - 16:25	Thomas Callister (The University of Chicago) <i>What gravitational-wave observations reveal about the population of compact binaries</i>	Invited
16:25 - 16:45	Mario Cadelano (University of Bologna) <i>Binary systems as probes of globular cluster internal dynamics</i>	Contributed
16:45 - 17:05	Florence Wragg (Liverpool John Moores University) <i>The Binary Demographics of Omega Centauri</i>	Contributed
17:05 - 17:25	Fabian Göttgens (University of Göttingen) <i>Searching for the White Dwarf Subsystems in the Core-Collapsed Globular Clusters NGC6397</i>	Contributed

17:25 - 17:45	Manuel Pichardo Marcano (American Museum of Natural History) <i>SCOVaS: Survey for Compact Objects and Variables Stars</i>	Contributed (remote)
17:45 - 18:05	Maigan Devries (Saint Mary's University) <i>Constraining the Intrinsic Binary Orbital Period Distribution in Globular Clusters</i>	Contributed (remote)
18:05 - ...	<b>Poster session with Brez'n &amp; beer</b>	

Friday, Sep 15

<i>Session XIII</i>	<i>Chair: Tomer Shenar</i>	
09:00 - 09:40	Silvia Toonen (Anton Pannekoek Institute) <i>Multiple stellar systems and the pathway to gravitational wave sources</i>	Invited (remote)
09:40 - 10:20	Fabio Antonini (University of Cardiff) <i>Black hole binary mergers from dense star clusters</i>	Invited
10:20 - 10:40	Long Wang (Sun Yat-sen University) <i>Exploring the influence of black holes on binary populations in Pal 5 globular cluster</i>	Contributed (remote)
10:40 - 11:10	<b>Coffee break</b>	
<i>Session XIV</i>	<i>Chair: Alejandro Vigna-Gomez</i>	
11:10 - 11:30	Marco Dall'Amico (University of Padova) <i>Close Encounters of the Third Kind: Eccentric Black Hole Mergers in Star Clusters</i>	Contributed
11:30 - 11:50	Stefano Torriamenti (University of Padova) <i>Star clusters and the nursery of binary black holes</i>	Contributed
11:50-12:10	Shanika Galaudage (Observatoire de la Côte d'Azur) <i>Merging binary black holes, their spins &amp; formation: what do we know so far from gravitational waves</i>	Contributed
12:10-12:30	Arkadiusz Hypki (Nicolaus Copernicus Astronomical Center) <i>MOCCA: Runaway merging scenario for IMBH formation in dense star clusters with multiple stellar populations</i>	Contributed
12:30 - 14:00	<b>Catered lunch</b>	
<i>Session XV</i>	<i>Chair: Sebastian Kamann</i>	
14:00 - 14:20	Sambaran Banerjee (University of Bonn) <i>Binary black hole merger rate from young massive clusters, open clusters, and isolated binaries</i>	Contributed
14:20 - 14:40	Gastón Escobar (Dipartimento di fisica e astronomia Galileo Galilei) <i>Formation of binary compact objects with SEVN and PeTar</i>	Contributed
14:40 - 14:50	<b>Poster price</b>	
14:50 - 15:20	N.N. <i>Conference summary</i>	Invited
15:20 - 15:30	<b>Farewell</b>	