# Unveiling the Universe with SHARP: a Spectrograph Proposal for MORFEO@ELT



Monday 30th September - Wednesday 02nd October 2024 Sala Bassetti - Palazzo Brera, Milano

# **Scientific Program**

(Last update 19th September)

#### Monday 30th September 2024

09.20-10.20	Registration		
10.20-10.30	Welcome		
	Session	Context	
10.30-11.00	Paolo Ciliegi (Invited)	MORFEO: the adaptive optics module for ELT	
11.00-11.30	Richard Davies (Invited)	MICADO observing modes and capabilities	
11.30-12.00	Paolo Saracco	SHARP - A spectrograph proposal for MORFEO@ELT	
12.00-12.30	Adriano Fontana (Invited)	ELT vs JWST	
12.30-14.20		Lunch break	
14.20-14.50	Francesca Annibali (Invited)	Science with MORFEO	
14.50-15.20	Eline Tolstoy (Invited)	Science with MICADO	
	Session	Young stellar pop and small bodies	
15.20-15.40	Linda Podio	Star and planet formation in the Solar neighborhood and	
		beyond with SHARP	
15.40-16.00	Manuela Lippi	Exploring small bodies and moons in the outer Solar	
		System with SHARP	
16.00-16.30		Coffee break	
16.30-16.40	Hossein Mahmoodzadeh	A pill of SHARP - Opto-mechanical layout	
16.40-17.00	Mario Guarcello	Beyond the Solar neighborhood. The SHARP view of young	
		very massive stellar clusters	
		End of conference day	
17.15-18.45	SHARP Team	Techno meeting	

## 20.15 Social dinner

(registration required https://indico.ict.inaf.it/event/2857/page/1425-social-dinner)

# Tuesday 01st October 2024

09.30-10.00	Luca Pasquini (Invited)	VLT: Present and Future	
	Session	Unresolved stellar pop and AGN at cosmic noon	
10.00-10.20	Francesco La Barbera	Constraining the stellar IMF of unresolved stellar populations with SHARP	
10.20-10.40	Marcella Longhetti	Quiescent galaxies at cosmic noon: from individual element abundances to star formation histories	
10.40-11-10	Coffee break		
11.10-11.30	Crescenzo Tortora	Understanding the origin of the golden mass across cosmic history	
11.30-11.50	Elena Dalla Bonta'	Dynamical mass measurements of supermassive black holes in quiescent galaxies and properties of galactic nuclei	
11.50-12.00	Hossein Mahmoodzadeh	A pill of SHARP - Integral Field Selector system and Configurable Slit System	
12.00-12.20	Enrichetta lodice	Unveiling the structure of low-surface brightness galaxies with SHARP	
12.20-12.40	Stefano Zibetti/Anna Gallazzi	The Emergence of Spiral Galaxy Structure at Cosmic Noon	
12.40-14.40		Lunch break	
14.40-15.00	Matilde Signorini	Precision near-IR spectroscopy for understanding AGN physics and shed light on the H0 tension	
15.00-15.20	Giustina Vietri	Unveiling the Cosmic Noon: 3D mapping of the AGN feedback in the bulk of the galaxy population	
15.20-15.40	Fabio Rigamonti	Galactic dynamics at cosmic noon: a new era with ELT	
15.40-16.00	Marco Mirabile	SHARP(ening the) view of unresolved globular clusters in the local universe.	
16.00-16.30		Coffee break	
	Session	Resolved Stellar pop and Kinematics	
16.30-16.50	Chandrakumar Avinash (TBC)	Resolved Stellar Populations Using NIRCam and Implications for MORFEO@ELT	
16.50-17.10	Hai-Feng Wang	Modeling the Milky Way and Sagittarius Dwarf galaxy in the Era of Gaia, LSST and ELT	
17.10-17.30	Giuseppe Bono	TBD	

### Wednesday 02nd October 2024

	Session	The High-redshift Universe	
09.30-09.50	Lorenzo Amati	The great synergy between SHARP and the THESEUS space mission	
09.50-10.10	Luca Izzo	The environment of transients host galaxies at high redshifts as observed by SHARP	
10.10-10.30	Carmelo Arcidiacono	Adaptive Optics for the Extremely Large Telescope: Overcoming PSF Challenges with MORFEO	
10.30-11.00	Coffee break		
11.00-11.20	Matteo Fossati	The co-evolution of galaxies and their CGM: a SHARP perspective	
11.20-11.40	Adriana Gargiulo / Chiara Mancini	Spatially resolved stellar population properties in passive galaxies at high-z	
11.40-12.00	Susanna Bisogni	Unveiling the Cosmic Dawn: looking for extended Lyman-alpha nebulae in an Universe younger than 600 Myr	
12.00-12.20	Marco Castellano	Leveraging on JWST observations to plan high-resolution ELT spectroscopy of early galaxies	
12.20-14.10	Lunch break		
14.10-14.30	Matteo Messa	Probing parsec-scale star-formation, proto-Globulars and pristine star formation in the early Universe in lensed fields with MORFEO - MICADO+SHARP	
14.30-14.50	Mari Polletta	Fueling and feedback mechanisms at the nodes of the cosmic web	
14.50-16.00	Open discussion		
	Short-term goals and concluding remarks		

### How to reach Sala Bassetti in Palazzo Brera

