

13 October 2025

	8:00-8:45	Registration and opening		
	8:45-9:00	Welcome talk by organizers		
Chairman	9:00-9:30	Keynote talk	P. Lugli	Micro and nano technologies landscape in Trentino and South Tirol
	9:30-9:45	Invited talk	M. Calandra	Interplay of Superconductivity, Ferromagnetism, and Half-Metallicity in Gated Single-Layer g-C ₃ N ₄
	9:45-10:00	Invited talk	E. Zallo	Large-area van der Waals Epitaxy of Monochalcogenide Based Materials
	10:00-10:15	Invited talk	M. Barbone	Breakdown of the static dielectric screening approximation of Coulomb interactions in atomically thin semiconductors
	10:15-10:30	Invited talk	G. Cantele	The role of spin orbit-coupling, twist and strain in the engineering of two-dimensional van der Waals heterostructures
	10:30-10:45	Invited talk	E. Garlatti	Nuclear Spin Qubits for Quantum Algorithms
	10:45-11:00	Invited talk	S. Dal Conte	Exciton many-body processes and population dynamics in 2D semiconductors
	11:00-11:20	Coffee break		
Chairman	11:20-11:35	Invited talk	E. Salvadori	Native and photoinduced paramagnetic species in carbon-based layered materials
	11:35-11:50	Invited talk	I. Vobornik	Spin- and Angle- Resolved Photoemission as a Tool for Revealing and Understanding the Electronic and Spin Properties of Low Dimensional Materials
	11:50-12:05	Invited talk	M. Mannini	Molecular spin qubits and molecular quantum logic gates on surfaces
	12:05-12:20	Invited talk	C. Casiraghi	Sustainable and Printable Electronics enabled by 2D Material Inks
	12:20-12:35	Invited talk	A. Locatelli	Synchrotron based photoemission spectromicroscopy of 2D systems
	12:35-12:50	Invited talk	L. Baldassarre	Advantages and challenges of resonance Raman with infrared excitation in the study of 2D materials
	12:50-13:05	Invited talk	A. Politano	Probing the Surface Excitation Spectrum of Transition-Metal Dichalcogenides and their Heterostructures by HREELS
	13:05-13:15	Industrial forum		
	13:15-14:15	Lunch		
Chairman	14:15-14:45	Keynote talk	A. Di Carlo	2D materials for perovskite photovoltaics: from cells to solar farms
	14:45-15:00	Invited talk	D. Marongiu	One-pot synthesis of 2D/3D single crystal hybrid-perovskite vertical heterostructures
	15:00-15:15	Invited talk	A. Mattoni	Molecular dynamics simulations of hybrid perovskites: towards the modeling of crystal growth and heterostructures
	15:15-15:30	Invited talk	L. Camilli	Effects of defects on the electronic and transport properties of 2D semiconductors
	15:30-15:45	Invited talk	A. Marini	Phonon Dressed Excitonic Insulator
	15:45-16:00	Coffee break		
Chairman	16:00-16:20	Invited talk	A. Polimeni	Strain in Flatlands
	16:20-16:35	Invited talk	A. Perucchi	Probing 2D van der Waals Materials with Advanced THz Spectroscopy at TeraFERMI
	16:35-16:50	Invited talk	M. Vitiello	Terahertz non-linear optics in van der Waals metamaterials
	16:50-18:00	Discussion		



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Low Dimensional Materials

13-15 October 2025, Naples, Italy

14 October 2025				
Chairman	9:00-9:30	Keynote talk	S. Baglio	SAMOTHRACE - Sicilian Micro and Nano Technology Research and Innovation Center
	9:30-9:45	Invited talk	F. Giannazzo	The Wide Band Gap (WBG) Pilot Line: new opportunities from 2D materials integration with the WBG semiconductors platform
	9:45-10:00	Invited talk	G. M. Palma	Quantum Extreme Learning Machines: quantum algorithms for quantum technologies and quantum technologies for quantum algorithms
	10:00-10:15	Invited talk	Fortis	
	10:15-10:30	Invited talk	C. Ciccarelli	Extracting spin from compensated magnets at picosecond timescales
	10:30-10:45	Invited talk	M. Mazzeo	Engineering Low-Dimensional DMD Electrodes for Transparent OLEDs and Semi-transparent Perovskite Solar Cells
	10:45-11:00	Invited talk	V. Tozzini	Tritiated graphene for neutrinos studies: computer modelling at the boundary between materials science and particle physics
	11:00-11:20	Coffee break + Poster session		
Chairman	11:20-11:50	Keynote talk	M. Muccini	Advanced Materials at CNR Bologna: an Integrated Model of Research, Innovation and Public-Private Partnership
	11:50-12:05	Invited talk	F. Giubileo	Field Emission at the Nanoscale: Role of Geometry, Defects, and Flexibility in Low-Dimensional Materials
	12:05-12:20	Invited talk	M. Di Lauro	Organic neuromorphic devices as building blocks and for neuroelectronics
	12:20-12:35	Invited talk	L. Basiricò	Low-Dimensional Metal Halide Perovskite Thin Films for Flexible, High-Sensitivity Ionizing Radiation Detectors
	12:35-12:50	Invited talk	M. B. Casu	Metal Free Radical Assemblies: Magnetism, Spintronics, Chemical Recognition, Recycling, and Circularity
	12:50-13:00	Industrial forum		
Chairman	13:00-13:30	Poster talks		
	13:30-14:30	Lunch + Poster session		
	14:30-15:00	Discussion		
	15:00-15:10	Saluti istituzionali		
Chairman	15:10-16:10	Discussion “Nobel prizes 2025”		
Chairman	16:10-17:10	Discussion “I.A. per la ricerca in scienza e tecnologia”		
	17:10-17:30	Coffee break + Poster session		
	17:30-18:00	Discussion		



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Chairman	9:00-9:30	Keynote talk	S. Pezzini	Teaming up to advance electron-based quantum technologies: NQSTI Spoke 5 at Pisa
	9:30-9:45	Invited talk	M. Cavallini	Tuning Electronic and Functional Properties in Defective MoS ₂ Thin Films by Electrochemical Nanopatterning
	9:45-10:00	Invited talk	L. Seravalli	Chemical vapor deposition (CVD) assisted by metal liquid precursors of Two-Dimensional MoS ₂ for heterostructure preparation
	10:00-10:15	Invited talk	F. Mazzola	Unconventional Magnetism: from loop currents to altermagnetism
	10:15-10:30	Invited talk	A. Molle	Two-Dimensional Nanosheets Made Atom by Atom for Electronic, Optoelectronic Devices
	10:30-10:45	Invited talk	F. Rossella	Semiconductor nanowire iontronics: an interdisciplinary journey through material science and quantum technology
	10:45-11:00	Invited talk	D. Daghero	Multi-gap superconductivity induced by gate-driven hydrogen intercalation in 1T-TiSe ₂
	11:00-11:20	Coffee break		
Chairman	11:20-11:35	Invited talk	D. Prezzi	From 1D Graphene Nanoribbons to 2D Periodic Architectures: Ab Initio Design of Functional Architectures for Optoelectronic Applications
	11:35-11:50	Invited talk	S. Roddaro	Electron cooling in graphene thermal transistors
	11:50-12:05	Invited talk	G. Milano	Neuromorphic Nanowire networks for <i>in materia</i> computing
	12:05-12:20	Invited talk	A. Convertino	Disordered Silicon Nanowires as a Versatile Platform to Explore Biological Complexity
	12:20-12:35	Invited talk	G. Zito	Bound State in the Continuum Polariton Lasing in a WS ₂ Monolayer
Chairman	12:35-13:15	Poster talks		
	13:15-14:30	Lunch		
Chairman	14:30-14:45	Invited talk	A. Coriolano	AI-Guided Synthesis of 2D Materials and Spectral Unmixing via Transformers
	14:45-15:00	Invited talk	F. Bisti	Darkness in electronic states from sublattice interference: from prototypical chromium to 2H-TaS ₂
	15:00-15:15	Invited talk	A. Liscio	Printable Amorphous Graphene Thin Films: A Tunable Platform for Investigating Disorder-Dominated Transport
	15:15-15:30	Invited talk	G. Faggio	Carbon-Based Nanomaterials for emerging applications
	15:30-15:50	Coffee break		
Chairman	15:50-16:05	Invited talk	S. Russo	Recent advances on 2D perovskites photodetectors and the role of defects
	16:05-16:20	Invited talk	N. Poccia	ERC-CoG-Funded New Napoli Lab Bringing to Italy Cuprate Twistronics Fabrication Methods for Superconducting Quantum Technologies
	16:20-16:35	Invited talk	M. Affronte	Quantum sensing with molecular spins embedded in superconducting circuits
	16:35-17:50	Discussion		
	17:50-18:00	Closing and final remarks by organizers		



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