

# DAL PNRR ALL'IMPATTO: INFRASTRUTTURE, COMPETENZE E VISIONE

Trasformare investimenti straordinari in capacità durature

4-5 giugno – Consiglio Nazionale delle Ricerche – Piazzale Aldo Moro 7, Roma

## GIOVEDÌ | 4 GIUGNO

09.30 – 10.00 RegISTRAZIONI

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10.00 – 10.15 Introduzione

**Stefano Fabris** (Direttore CNR-DSFTM)

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10.15 – 11.00 KEYNOTE: Materials simulations in the age of AI

**Nicola Marzari** (University of Cambridge)

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11.00 – 12.30 Infrastrutture di Ricerca PNRR: costruire le piattaforme della scienza del futuro

- NFFA-DI – Nano Foundries and Fine Analysis Digital Infrastructure - **Cristina Africh**
  - I-PHOQS – Integrated infrastructure Initiative in Photonic and Quantum Sciences - **Paolo De Natale**
  - NEFERTARI – New Equipment for Fusion Experimental Research and Technological Advancements - **Olga De Pascale**
  - iENTRANCE – Infrastructure for Energy Transition and Circular Economy - **Vittorio Morandi**
  - EBRAINS-Italy - **Rosanna Migliore**
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12.30 – 14.00 Pranzo a buffet

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14.00 – 15.15 TAVOLA ROTONDA: Il futuro delle Infrastrutture di Ricerca PNRR: governance, sostenibilità e impatto

*Moderata:* **Alessio Jacona** (Giornalista tech)

*Intervengono:* **Gianluigi Consoli** (Direttore Generale MUR), **Caterina Petrillo** (Presidente Area Science Park), **Rosaria Villari** (Dipartimento Nucleare ENEA), **Giorgio Rossi** (Università di Milano e CNR-IOM), **Antonio Pifferi** (Politecnico di Milano e CNR IFN)

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15.15 – 16.00 Scienza chiara, scienza oscura

**Gianfranco Pacchioni** (Accademia dei Lincei)

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16.00 – 16.30 Coffee Break

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16.30 – 19.15 Sessioni scientifiche parallele

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19.15 – 19.45 Narrazione evocativa della ricerca nel DSFTM

**Gabriella Greison** (Fisica, scrittrice e narratrice di meccanica quantistica)

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20.30 – 22.00 Apericena presso Best Western Plus Hotel Globus

## VENERDÌ | 5 GIUGNO

09.00 – 09.45 KEYNOTE: New scientific opportunities at the European X-ray Free Electron Laser  
**Sakura Pascarelli** (European XFEL, Amburgo)

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09.45 – 11.00 Ecosistemi e partenariati PNRR: Hub & Spoke per la ricerca e l'innovazione

- NQSTI – National Quantum Science and Technology Institute - **Francesco Cataliotti**
- National Centre for HPC, Big Data and Quantum Computing - **Andrea Ferretti**
- Samothrace – Sicilian Micro and Nano Technology Research and Innovation Center - **Vittorio Privitera**
- NEST – Network 4 Energy Sustainable Transition - **Lidia Armelao**
- Rome Technopole – **Annamaria Gerardo**

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11.00 – 11.30 Coffee Break

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11.30 – 12.45 TAVOLA ROTONDA: Oltre il PNRR: strategie nazionali per consolidare gli investimenti in ricerca

*Moderata:* **Alessio Jacona** (Giornalista tech)  
*Intervengono:* **Jacopo Greco** (Direttore Generale CNR), **Francesco Ubertini** (Presidente CINECA), **Francesca Galli** (Delegata MUR), **Fabio Beltram** (Direttore scientifico NQSTI, Scuola Normale Superiore), **Antonio La Gatta** (Dipartimento per la Trasformazione Digitale, Presidenza del Consiglio dei Ministri)

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12.45 – 13.00 Prospettive e conclusioni  
**Stefano Fabris** (Direttore CNR-DSFTM)

Comitato Scientifico: Stefano Fabris, Federico Boscherini, Guido Caldarelli, Aldo Di Carlo, Caterina Vozzi  
Comitato Organizzatore: Sara Laureti, Chiara Mustarelli, Antonella Tajani, Maria Zippo, Irene Modolo

## SESSIONI SCIENTIFICHE PARALLELE

	Aula Convegni	Aula Videoconferenze	Biblioteca	Aula 3D
16:30	<b>P. Siciliano</b> - Age-It: Ageing Well in an Ageing Society- The PNRR public-private alliance to generate socioeconomic, biomedical and technological solutions for an Active and Healthy Italian ageing society	<b>S. Dal Zilio</b> - PRP@CERIC – A digitally integrated platform for infectious disease research	<b>A. Sala</b> - Synthesis and characterization of two-dimensional diboron trioxide crystal composed by boroxol groups	<b>P. Zuppella</b> - Bridging science and technology: decades of Italian optical breakthroughs in international space missions
16:45	<b>G. Gubbiotti</b> - CNR Participation in the VITALITY Ecosystem: From Advanced Materials Research to Regional Innovation and Sustainability	<b>E. Esposito</b> - EYE LAB – Naples Cryo EM Laboratory: Open Access Infrastructure and Scientific Highlights	<b>G. Varvaro</b> - Sustainable-by-design magnetic materials: from permanent magnets to soft electronics	<b>O. Pezzi</b> - Plasma turbulence in space: latest results and future perspectives
17:00	<b>C. Distante</b> - From FAIR to AI4Nature: Pervasive, Trustworthy, and Sustainable AI for Ecological Transition and Biodiversity	<b>B. Guilcapi</b> - Plasmonic SERS Nanobiosensors for Ultrasensitive and Automated Detection of Shiga Toxin Variants: From Rigid and Flexible Gold Nanostructures to Intelligent Point-of-Care Diagnostics	<b>L. De Marco</b> - Hybrid electrodes for sustainable energy storage	<b>G. Biasiol</b> - Epitaxy of semiconductors for quantum technologies
17:15	<b>L. Gizzi</b> - The CNR contribution to the Tuscany Health Ecosystem (THE): integrated research and disruptive innovation in healthcare	<b>C. Di Franco</b> - Biophotonics and Nanotechnology for Single-Molecule Biosensing, Multimodal Imaging and Precision Diagnostics	<b>J. Barichello</b> - From Narrow- to Wide-Bandgap Perovskites for Emerging Photovoltaic Technologies	<b>L. Pellegrino</b> - Micro&nanoelectromechanical systems based on epitaxial complex oxide thin films for sensors and actuators
17:30	<b>R. Osellame</b> - QOLOSSUS: the Italian quantum photonic computer	<b>G. Brancolini</b> - Bridging Quantum Mechanics and Coarse-Grained Models for Rational Polymer Design	<b>S. Argiolas</b> - Molecular dynamics simulation of hybrid metal halide perovskites crystal growth	<b>F. Gabriele</b> - Ultrafast control and investigation of complex oxides using intense light pulses
17:45	<b>A. Malagoli</b> - IBS superconducting wires development for high field magnets: a collaboration between CNR-SPIN and CERN supported by the PNRR-Infrastructure IRIS	<b>L. Tavagnacco</b> - Numerical simulations of copolymer microgels	<b>G. Zanotti</b> - Resource-efficient molecular engineering for energy and optoelectronic devices	<b>A. Coppo</b> - Criticality as a Resource for quantum devices: Topological Protection, Supersymmetry, and Quantum-Enhanced Sensing

	Aula Convegni	Aula Videoconferenze	Biblioteca	Aula 3D
18:00	<b>C. Baratto</b> - New technologies and methodologies for traceability, quality, safety, measurements and certifications: the activity of DSFTM in the spoke 9 of CN-Agritech	<b>S. Vilasi</b> - How biophysics contributes to rare disease research, the case of cblC disease	<b>M. Di Giovannantonio</b> - Engineering catalysis atom by atom: single-atom platforms on surfaces	<b>V. Di Meo</b> - Bogoliubov Excitations and Topological Effects in Superconducting Qubit Networks
18:15	<b>L. Poletto</b> iNEST - Interconnected Nord-Est Innovation Ecosystem	<b>C. Lodovichi</b> - Brain network dynamics in health and disease	<b>A. Cola</b> - Direct spatiotemporal imaging of charge carrier clouds in operative semiconductor devices	<b>D. Ballarini</b> - Dynamical universality in a driven quantum fluid of light
18:30	<b>S. A. Lombardo</b> - Microelectronic Technologies for the Green Economy	<b>G. Viero</b> - RNA Catalysis and Ribosome Heterogeneity as Sources of Novel Therapeutic Targets and Biomarkers	<b>S. Pezzini</b> - Engineering emergent phenomena in twisted graphene devices	<b>I. Ricciardi</b> - Quantum nonlinear optics and spectroscopy
18:45	<b>I. Casiraghi</b> - The BiGyM linear plasma device: upgrade status and modelling activities		<b>C. Danieli</b> - Thouless quantum walks in topological flat bands	<b>L. Tanzi</b> - From quantum simulation to quantum computation with ultracold matter
19:00			<b>G. Fiscaro</b> - Bridging length and time scales in materials science with artificial intelligence	