

# IL PROGETTO IBiSCo E LA TRANSIZIONE VERSO IL “CENTRO NAZIONALE DI RICERCA IN HIGH PERFORMANCE COMPUTING, BIG DATA E QUANTUM COMPUTING (ICSC)”

## AGENDA 18 APRILE 2024

Complesso Universitario di Monte S. Angelo, Aula Caianiello

### 09:30–10:00 WELCOME COFFEE e REGISTRAZIONE

10:00–10:15 C1-0 Saluti istituzionali (proff. G.Miele, L. Lista, F. Miletto Granozio)

**Chairperson: Giorgio Pietro Maggi**

10:15–10:40 C1-1 *Carlino*, Il progetto IBiSCo

10:40–11:00 C1-2 *Doria et al.*, L'upgrade delle infrastrutture del DataCenter IBiSCo verso ICSC a INFN-NAPOLI

11:00–11:15 C1-3 *Vilucchi et al.*, Scientific Computing Facilities at LNF and INAF-OAR

11:15–11:35 C1-4 *Monforte et al.*, The IBiSCo infrastructure at INFN-CT

11:35–11:50 C1-5 *Russo et al.*, The IBiSCo infrastructure at UNINA

11:50–12:05 C1-6 *di Bari et al.*, Le infrastrutture impiantistiche del Data Center IBiSCo-ReCaS-Bari dopo l'upgrade di IBiSCo

12:05–12:20 C1-7 *Donvito et al.*, Le infrastrutture di calcolo, storage e rete per il Data Center IBiSCo-ReCaS-Bari dopo l'upgrade di IBiSCo

12:20–12:35 C1-8 *Cantele et al.*, Le infrastrutture realizzate presso il CNR

12:35–13:00 C1-9 *Grandi*, Il Centro Nazionale ICSC

13:00–13:20 Questions & Answers

13:20–14:30 **PAUSA PRANZO** (buffet)

**Chairperson: Alessandra Doria**

14:30–14:45 C2-1 *Nicodemi et al.*, High-performance computing in biological physics

14:45–15:00 C2-2 *Pardi et al.*, IBiSCo usage for the Belle II experiment

15:00–15:15 C2-3 *Carracciuolo et al.*, Progettazione, Implementazione e Validazione di una risorsa HPC eterogenea

15:15–15:30 C2-4 *Vizzuso*, Quantum hybrid algorithms for combinatorial optimization problems

15:30–15:45 C2-5 *Spisso et al.*, The HPC IBiSCo seeds for INFN experiments workflow-based cluster

15:45–16:00 Questions & Answers

16:00–16:30 **COFFEE BREAK**

**Chairperson: Giovanni Cantele**

16:30–16:45 C2-6 *Sabella et al.*, The User Experience in IBiSCo Data Center

16:45–16:55 C2-7 *Tortora et al.*, The Monitoring System in the IBiSCo Data Center

16:55–17:10 C2-8 *Delli Veneri et al.*, Cloud Infrastructure and storage for IBiSCo and ICSC at Naples

17:10–17:20 C2-9 *Brescia et al.*, High-performance computing in astrophysics

17:20–17:30 C2-10 *Conte et al.*, Application of the IBiSCo Data Center for cultural heritage projects

17:30–17:50 Questions & Answers

20:00–23:00 **CENA SOCIALE**



UNIONE EUROPEA  
Fondo Sociale Europeo  
Fondo Europeo di Sviluppo Regionale



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## AGENDA 19 Aprile 2024

**Chairperson: Silvio Pardi**

- 09:20–09:30** C3-1 *Bonano et al.*, Methods and algorithms for the massive processing of synthetic aperture radar interferometric satellite data
- 09:30–09:40** C3-2 *Fontanarosa et al.*, Computational fluid dynamics of complex multiphase systems through electrohydrodynamic effect (EHD) for microfluidic applications
- 09:40–09:50** C3-3 *Vitale et al.*, Large scale molecular dynamics simulations of biomolecular systems in membrane environment
- 09:50–10:00** C3-4 *Massuoli et al.*, Development and application of parallel CPU/GPU tools to extend the characterization of direct and solvent-mediated H-bond interactions in large structural protein databases
- 10:00–10:10** C3-5 *di Bari et al.*, Contribution of the IBiSCo-ReCaS-Bari Data Center to the Italian National Smart Specialization Strategy
- 10:10–10:20** C3-6 *Nicotri et al.*, The users of the IBiSCo-ReCaS-Bari data center and their support: organization and tools
- 10:20–10:30** C3-7 *Italiano et al.*, IBiSCo-ReCaS-Bari Cloud site evolution: Introducing the architecture and implementation of the upgraded IaaS infrastructure
- 10:30–10:40** C3-8 *Patano et al.*, Delivering integrated high-level services at Bari IBiSCo-ReCaS site through the PaaS dashboard

**10:40–11:00** Questions & Answers

**11:00–11:30 COFFEE BREAK**

**Chairperson: Melania Paturzo**

- 11:30–11:40** C3-9 *Vino et al.*, GPU-based cluster at IBiSCo-ReCaS-Bari for containerized scientific applications
- 11:40–11:50** C3-10 *La Salandra et al.*, High-performance computing in UAV photogrammetry
- 11:50–12:00** C3-11 *Russomanno*, Many-body quantum dynamics simulations with the IBiSCo resource
- 12:00–12:10** C3-12 *Izzo et al.*, Unlocking AI Capabilities: Advanced Applications through High-Performance Computing
- 12:10–12:20** C3-13 *Piergentili et al.*, Open Access repositories for scientific literature and research data

**12:20–12:40** Questions & Answers

**12:40–13:40 PAUSA PRANZO** (buffet)

**Chairperson: Giacinto Donvito**

- 13:40–13:55** C3-14 *Mutarelli et al.*, Setting up an automated framework for bioinformatic and multiomic analyses on IBiSCo
- 13:55–14:10** C3-15 *Lo Giudice et al.*, Development of a state of the art computational environment for handling human genetic data: the effort of ELIXIR-IT
- 14:10–14:25** C3-16 *Barreca et al.*, Material science problems on IBiSCo
- 14:25–14:40** C3-17 *Viola et al.*, Towards machine learning-based PDE identification for crowd dynamics
- 14:40–15:00** Conclusioni (*Carlino*)