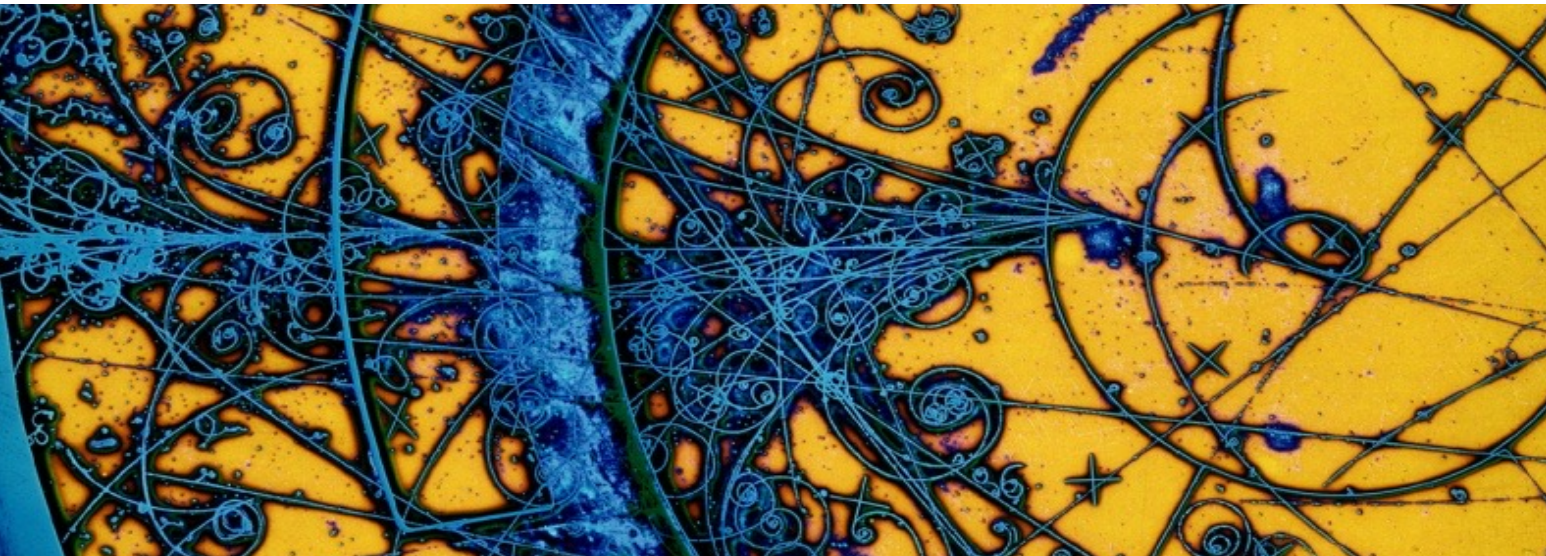


Preventivi 2025

Gruppo Teorico di Bari (CSN4)

03/07/2024



Istituto Nazionale di Fisica Nucleare

Coordinatrice: Fulvia De Fazio

CSN4: 6 linee scientifiche

A Bari

Linea 1: Teorie di campo e di stringa	NPQCD	(Resp. Loc. G. Magnifico)
Linea 2: Fenomenologia delle particelle elementari	SPIF	(Resp. Loc. F. De Fazio)
Linea 3: Fisica Nucleare		
Linea 4: Metodi matematici	QUANTUM	(Resp. Loc. e Naz. P. Facchi)
Linea 5: Astroparticelle e cosmologia	TASP	(Resp. Loc. E. Lisi)
Linea 6: Fisica statistica e applicazioni di teoria dei campi	BIOPHYS	(Resp. Loc. e Naz. S. Stramaglia)
	FIELDTURB	(Resp. Loc. e Naz. G. Gonnella)

3 responsabili nazionali

Realizzata la pagina web:

<https://www.ba.infn.it/TheoryGroup>

Grazie

ad Angelo Ceres e Vincenzo Spinoso

Outline

- Breve descrizione delle attività scientifiche
- Anagrafica
- Richieste finanziarie

Linea 1:
NPQCD
Non-perturbative
Quantum Chromodynamics



Leonardo COSMAI



Giuseppe MAGNIFICO



Paolo CEA

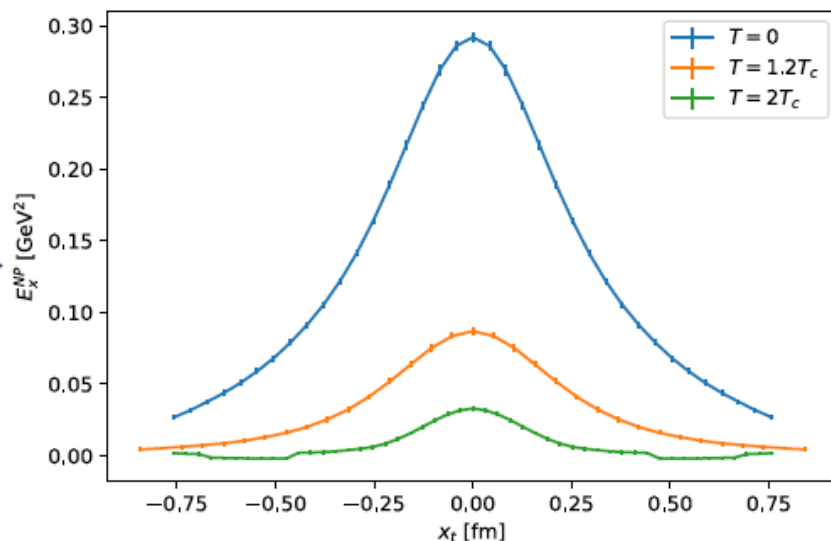
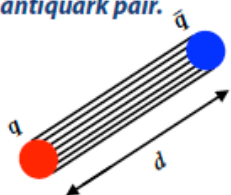
Attività scientifica:
NPOCD

Unveiling SU(3) Flux Tubes At Nonzero Temperature: Electric Fields and Magnetic Currents

M. Baker, V. Chelnokov, L. Cosmai, F. Cuteri, and A. Papa,
Eur.Phys.J.C **84** (2024) **2**, 150, [arXiv:2310.04298]

Investigation of deconfinement in SU(3) pure gauge theory at finite temperature.

The transverse profile of the nonperturbative chromoelectric field produced by a static quark-antiquark pair.



Observed the breakdown of the nonperturbative chromoelectric field created by a static quark-antiquark pair as temperature rises: a signal for color deconfinement.

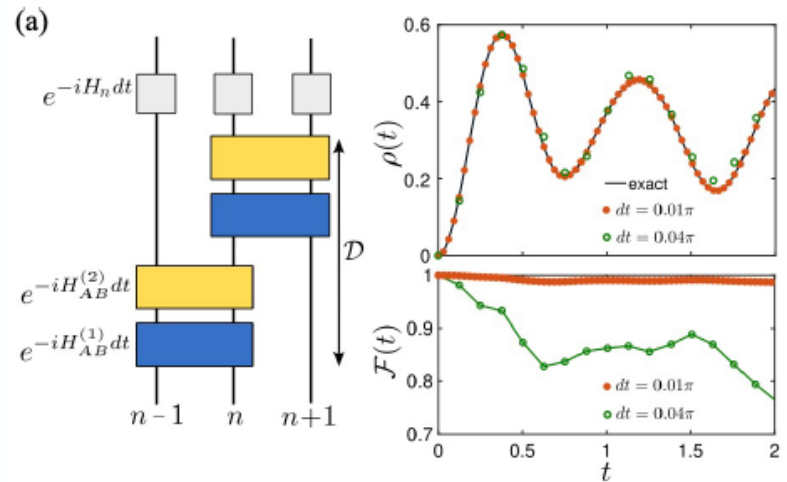
The QCD Vacuum as a Disordered Chromomagnetic Condensate

Paolo Cea, *Universe* **10** (2024) no.3, 111 [arXiv:2311.14791]

- An attempt is made to describe from first principles the *large-scale structure of the confining vacuum in quantum chromodynamics*.
- It has been show that the SU(3) vacuum in three-space and one-time dimensions behaves like a *disordered chromomagnetic condensate*.
- *Color confinement* is assured by the presence of a *mass gap* together with the *absence of color long-range correlations*.
- We offer a clear physical picture for the formation of the flux tube between static quark charges that allows us to determine the *color structure and the transverse profile of the flux-tube chromoelectric field*. The transverse profile of the flux-tube chromoelectric field turns out to be in reasonable agreement with lattice data.
- We, also, show that our quantum vacuum allows for both the color and ordinary Meissner effect. We find that *for massless quarks, the quantum vacuum can accommodate a finite non-zero density of fermion zero modes leading to the dynamical breaking of the chiral symmetry*.

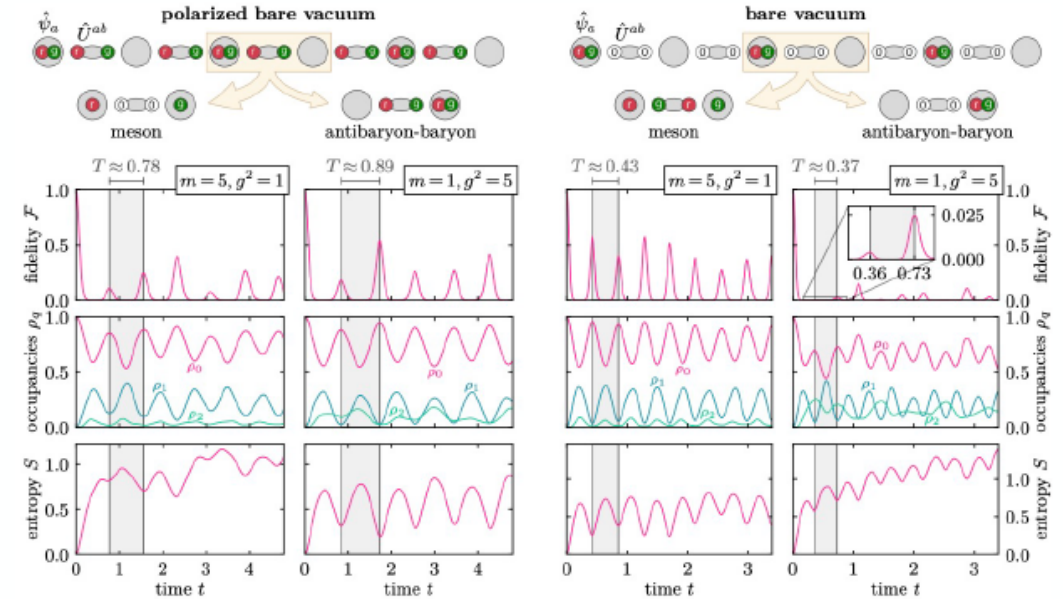
NPQCD: Quantum simulation of a (1+1)D SU(2) LGTs and many-body scar states

G. Calajò, G. Magnifico, C. Edmunds, M. Ringbauer, S. Montangero, P. Silvi,
arXiv:2402.07987



- We present a **quantum simulation** strategy for a (1+1)D SU(2) non-abelian lattice gauge theory tailored to trapped-ion **qudit quantum processor**.
- We illustrate how a shallow circuit with these resources is sufficient to implement scalable digital quantum simulation of **the dynamics of the model**.
- We also numerically show that this model, albeit simple, can dynamically manifest physically-relevant properties specific to non-abelian field theories, such as **baryon excitations**.

G. Calajò, G. Cataldi, M. Rigobello, D. Wanisch, G. Magnifico, P. Silvi,
S. Montangero, Jad C. Halimeh, arXiv:2405.13112



- Quantum many-body scarring (QMBS) is an intriguing mechanism of ergodicity breaking. Particularly prominent in Abelian lattice gauge theories (LGTs), an open question is whether QMBS nontrivially arises in non-Abelian LGTs.
- For the first time, we present evidence of robust quantum many-body **scar states** and **absence of thermalization** in a non-Abelian SU(2) LGT with dynamical matter.

Linea 2:

SPIF

**Precision Studies of Fundamental Interactions
in the Standard Model and beyond**



**Floriana
GIANNUZZI**

**Stefano
NICOTRI**

**Francesco
LOPARCO**

**Fulvia
DE FAZIO**

**Nicola
LOSACCO**

**Davide
MILILLO**

**Pietro
COLANGELO**

Attività scientifica: SPIF

**Precision Studies of Fundamental Interactions
in the Standard Model and beyond**

SPIF: Precision Studies of Fundamental Interactions in the Standard Model and beyond
+PRIN PNRR 2022 (Giannuzzi PI)

Research items:

- a) **Flavour Physics in the SM and in BSM scenarios**
- b) **Holographic QCD**
- c) **Flavour Physics & Hadron spectroscopy**

Publications:

P. Colangelo, F. De Fazio, F. Loporco, N. Losacco:

“Extracting full information from angular coefficient functions of $B \rightarrow D^ l \nu_l$ decays”*
Phys. Rev. D 109 (2024) 075047

F. Loporco:

“A New Look at $b \rightarrow s$ Observables in 331 Models ”
Particles 7 (2024) 161

P. Colangelo, F. De Fazio, F. Loporco, N. Losacco:

“Constraining ν SMEFT coefficients: the case of the extra $U(1)$ ”
BARI-TH/760-24 [arXiv:2406.07059 [hep-ph]]

P. Colangelo, F. Giannuzzi, S. Nicotri,

“Hadronic light-by-light scattering contributions to $(g-2)_\mu$ from axial-vector and tensor mesons in the holographic soft-wall model”
Phys. Rev. D 109 (2024) 9

outreach:

P. Colangelo, V. Greco

Le interazioni forti da un ologramma (SIF prima pagina)

F. De Fazio,

Dalla fisica classica alla meccanica quantistica –
Researchers @ School INFN LNF

P. Colangelo, Festival della Scienza di Foggia;

F. De Fazio in «Quanti Misteriosi»

P. Colangelo, F. De Fazio Masterclasses CMS ALICE LHCb

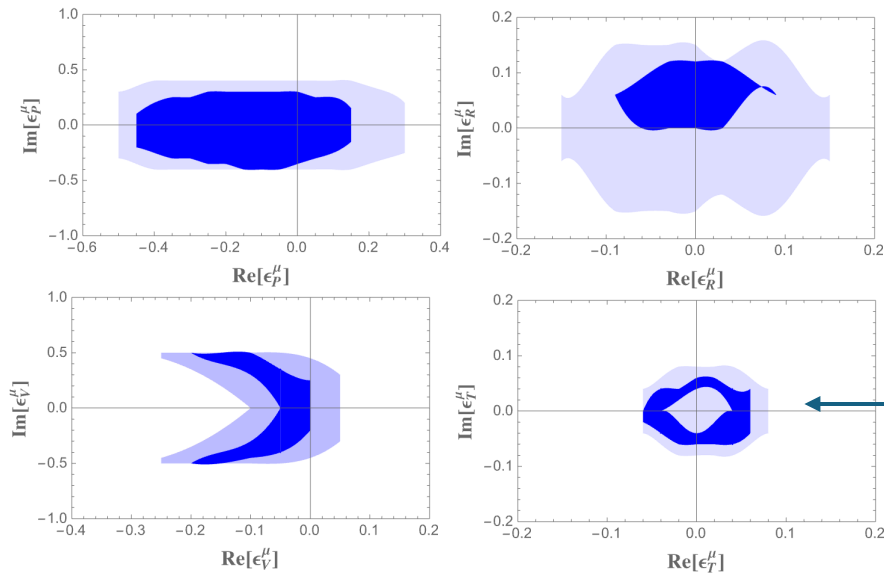
Seminars & events

- XI Edition of **QCD@Work** 18-21 June, 2024 Trani
≈ 80 participants from ≈15 countries, 45 talks
- F. De Fazio, invited talk @ LHCb meets Theory: Probing the nature of the $X(3872)$ state using radiative decays
CERN June 27, 2024

SPIF: Flavour physics in the SM and beyond - 2024 highlights

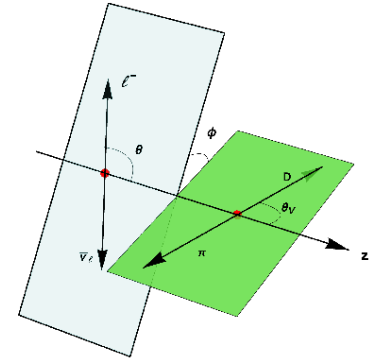
- Angular coefficient functions of $B \rightarrow D^*(D \pi) \ell \nu$: analysis using Belle data in [arXiv:2310.20286](#) and a generalized effective Hamiltonian including all d=6 semileptonic operators

→ possible indication of a BSM effect



$$H_{\text{eff}}^{b \rightarrow U \ell \nu} = \frac{G_F}{\sqrt{2}} V_{Ub} \{ (1 + \epsilon_V^\ell) (\bar{U} \gamma_\mu (1 - \gamma_5) b) (\bar{\ell} \gamma^\mu (1 - \gamma_5) \nu_\ell) + \epsilon_R^\ell (\bar{U} \gamma_\mu (1 + \gamma_5) b) (\bar{\ell} \gamma^\mu (1 - \gamma_5) \nu_\ell) + \epsilon_S^\ell (\bar{U} b) (\bar{\ell} (1 - \gamma_5) \nu_\ell) + \epsilon_P^\ell (\bar{U} \gamma_5 b) (\bar{\ell} (1 - \gamma_5) \nu_\ell) + \epsilon_T^\ell (\bar{U} \sigma_{\mu\nu} (1 - \gamma_5) b) (\bar{\ell} \sigma^{\mu\nu} (1 - \gamma_5) \nu_\ell) \} + \text{H.c.},$$

coefficient of the tensor operator
 $\epsilon_T^\mu = 0$ (SM) disfavoured



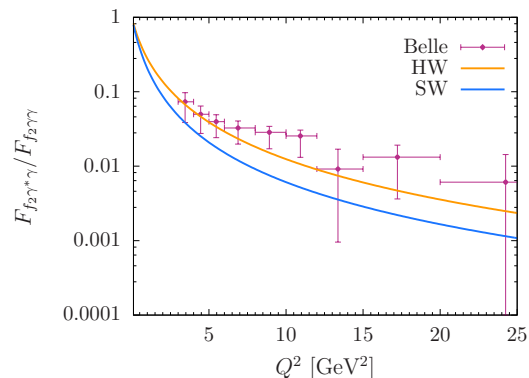
Colangelo De Fazio Loparco Losacco
 Phys. Rev. D 109 (2024) 075047

- Updated analysis of $b \rightarrow s$ observables in 331 models [F. Loparco](#) Particles 7 (2024) 161 (best phd thesis award)
- Constraints on the coefficients of the vSMEFT for a minimal $U(1)'$ extension of the SM, obtained imposing the gauge anomaly cancellation: correlations in selected models

Colangelo De Fazio Loparco Losacco
 BARI-TH/760-24 [arXiv:2406.07059 [hep-ph]]

SPIF: Holographic methods for nonperturbative QCD - 2024 highlights

Two-photon transition form factors of light axial-vector and tensor mesons using the QCD soft-wall model; pole hadronic light-by-light contributions to $(g-2)_\mu$



Ref.	a_1^0	$f_1(1285)$	$f_1'(1420)$	Sum
White Paper [2]				6 ± 6
Bijnens <i>et al.</i> [37]				2.5 ± 1
Hayakawa <i>et al.</i> [38]				1.738 ± 0.003
Melnikov <i>et al.</i> [14]	5.7	15.6	0.8	22 ± 5
Pauk <i>et al.</i> [30]		5.0 ± 2.0	1.4 ± 0.7	6.4 ± 2.0
Roig <i>et al.</i> [31]	0.21 ± 0.04	0.58 ± 0.11	0.015 ± 0.008	$0.8^{+3.5}_{-0.8}$
Leutgeb <i>et al.</i> [20,35]				29.8–33.2
Cappiello <i>et al.</i> [19]	8	8	12	28
Masjuan <i>et al.</i> [15]	5.89	10.52	1.97	18.38
Leutgeb <i>et al.</i> [39]	7.1–7.8	4.3–5.7	13.6–14.3	25.0–27.8
Radzhabov <i>et al.</i> [40]				3.6 ± 1.8
This work				36

Colangelo Giannuzzi Nicotri

Phys. Rev. D 109 (2024) 9

large axial vector contribution
to $(g-2)_\mu$

SPIF: projects for 2024-2025

- study of lepton flavor violating rare/forbidden decays in anomaly free BSM model with Z' and flavour nonuniversal quark and lepton couplings
- Inclusive $H_b \rightarrow X_s l^+ l^-$ decay with H_b a beauty baryon, in particular Λ_b , at $O(1/m_b^3)$ keeping the spin dependence
- AdS/QCD applied to the thermalization of strongly interacting systems under external perturbations
- Hadron properties using AdS/QCD
- Spectroscopy of hadrons using effective QCD field theory approaches

Linea 4:
QUANTUM
Quantum Systems:
entanglement, simulations, information

Staff



**Giuseppe
MAGNIFICO**



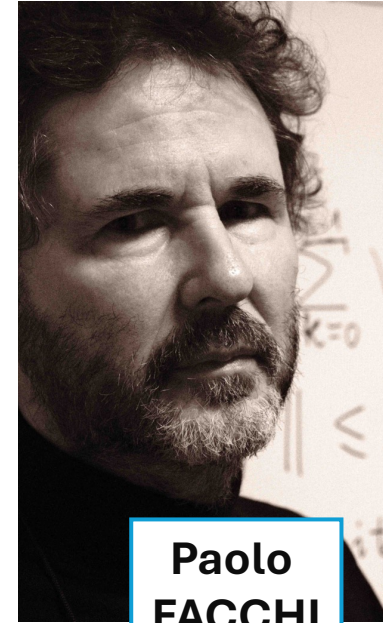
**Francesco
PEPE**



**Saverio
PASCAZIO**



**Giuseppe
FLORIO**



**Paolo
FACCHI**



**Cosmo
LUPO**

**Fabio
KUNDEN**

Attività scientifica: QUANTUM (1)

RTDA



**Debmalya
DAS**



**Maria
MAFFEI**



**Giovanni
SCALA**



**Giovanni
GRAMEGNA**

QUANTUM (2)

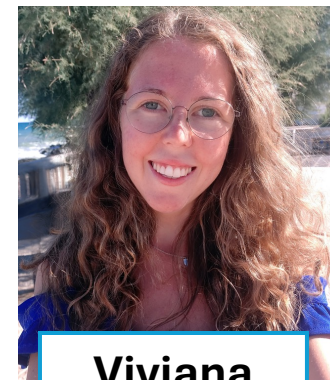
PhD



**Riccardo
ACQUAVIVA**



**Vito
VIESTI**



**Viviana
VIGGIANO**

**Giuseppe
BUONO**

**Ammara
AMMARA**

**Aaqib
ALI**

Postdoc



**Daniele
AMATO**



**Arturo
KONDERAK**

Pubblicazioni QUANTUM

Most relevant 2024 publications:

- **Quantum**
D. Burgarth, et al., Quantum **8**, 1262 (2024)
- **Scientific Reports**
D. Amato, et al., Sci. Rep. **14** (2024)
- **Optica Quantum**
L. Santamaria, et al., Optica Quantum **2**, 46 (2024)
- **Physical Review Research**
M. Maffei, et al., Letter in Phys. Rev. Research **6** (2024)
- **Journal of Physics A**
F. Benatti, et al., J. Phys. A **57**, 025301 (2024)
- **Physical Review A**
M.A. Javarone, et al., Phys. Rev. A **109**, 042605 (2024)

Attività di ricerca QUANTUM

- Entanglement e correlazioni quantistiche
- Sistemi quantistici dissipativi
- Controllo quantistico

Recent topics:

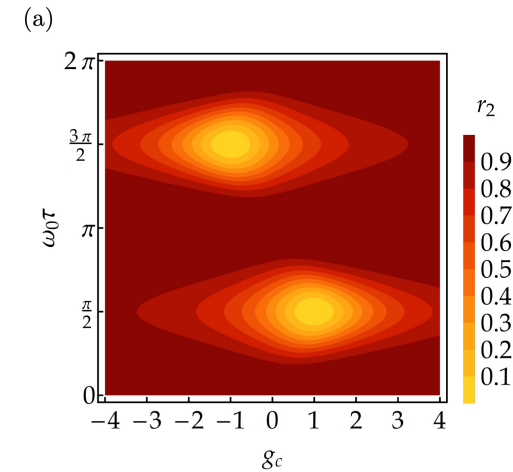
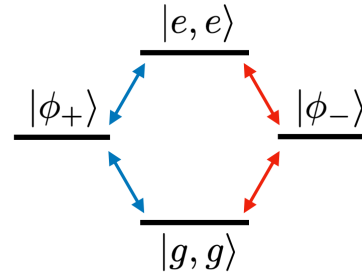
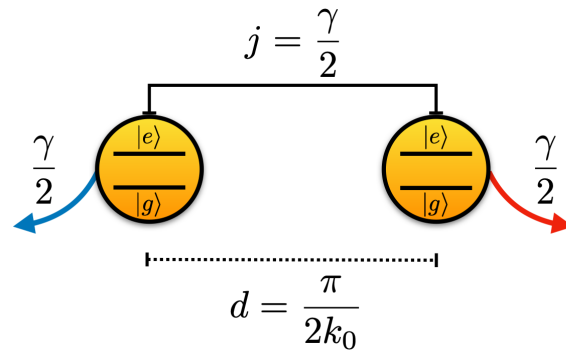
Simulatori quantistici

Canali quantistici

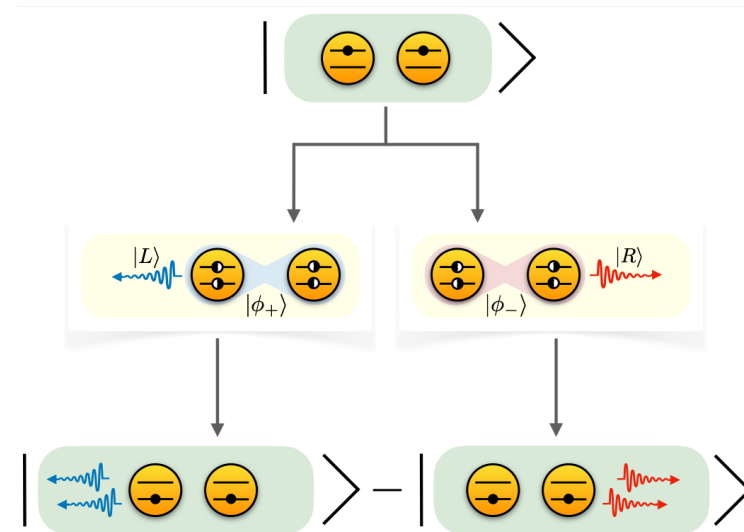
Disaccoppiamento dinamico

Stabilità delle simmetrie quantistiche

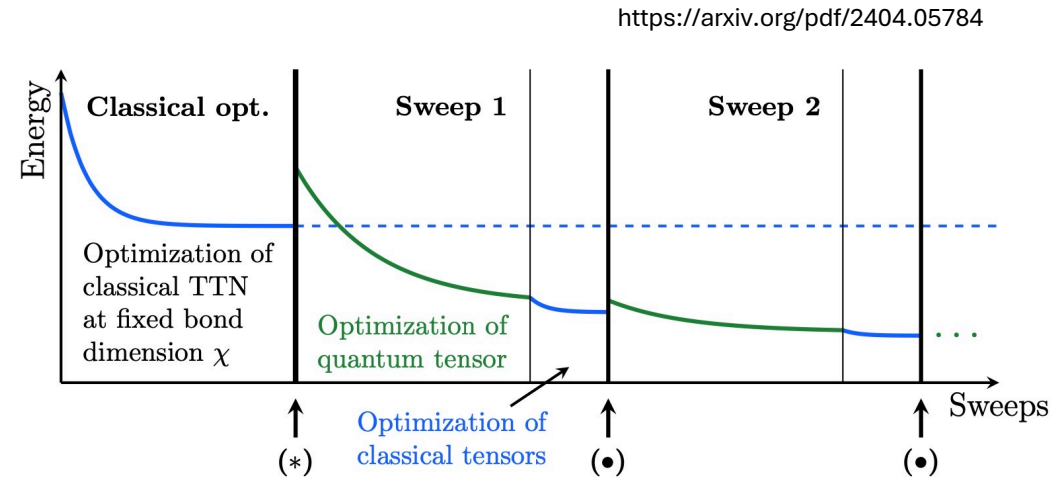
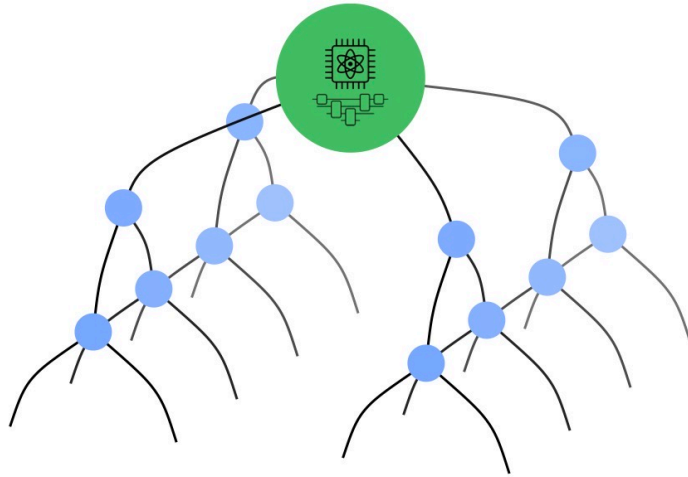
Directional emission from a qubit pair in waveguide



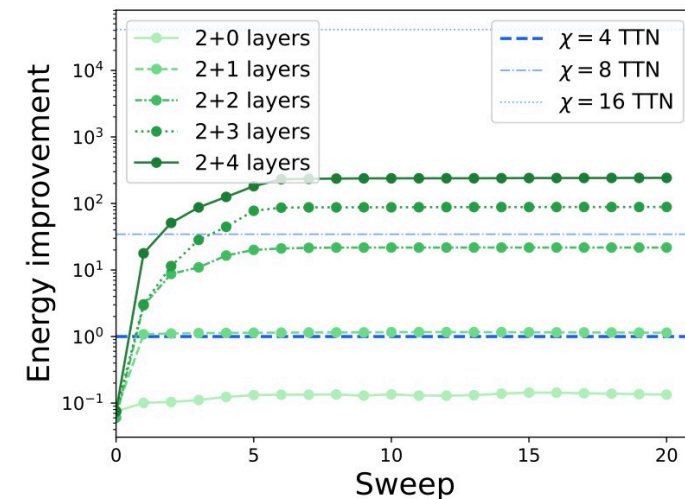
- Pair of identical qubits coupled to a parity invariant waveguide in the microwave domain
- Directional single photon emission and two photon directional bunching



Hybrid tree tensor networks for quantum simulation



- Hybrid Tensor Networks promising solution for variational quantum states beyond efficient classical methods or noisy quantum computers
- Novel algorithm for ground state optimizations
- Benchmark models: Ising @ critical point and Toric code



Linea 5:
TASP
Theoretical Astroparticle Physics



**Maurizio
GASPERINI**



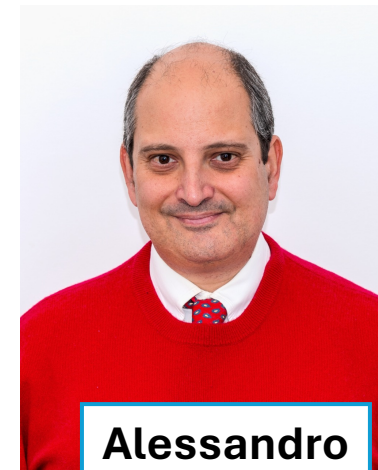
**Alessandro
LELLA**



**Eligio
LISI**



**Antonio
MARRONE**



**Alessandro
MIRIZZI**



**Antonio
PALAZZO**

Attività scientifica: TASP

Theoretical Astroparticle physics



**Eliseo
PAVONE**



**Luigi
TEDESCO**

TAsP – Theoretical Astroparticle Physics

● Fisica dei neutrini [E. Lisi – coordinatore locale, A. Marrone, A. Palazzo]

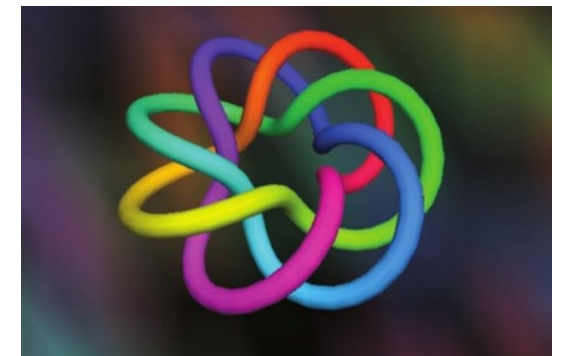
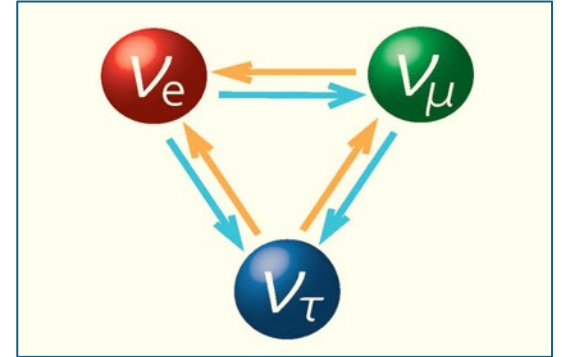
Studio del "quenching" nelle interazioni assiali dei ν nei nuclei, attraverso decadimenti β proibiti. Analisi combinata dei limiti sulla massa di Majorana da decadimento $0\nu\beta\beta$ in scenari (non)standard. Aggiornamento dell'analisi globale dei dati di oscillazione. Effetti di interazioni nonstandard dei ν in esperimenti di oscillazione con acceleratori a lunga base.

● Assioni in astrofisica e altri candidati di materia oscura [A. Mirizzi, A. Lella, G. Lucente]

Analisi sistematica dei vincoli allo spazio dei parametri di possibili assioni e neutrini sterili pesanti emessi da supernova. Calcolo di flussi di assioni misurabili in rivelatori sotterranei, e di fotoni da conversione assione-fotone in rivelatori di raggi gamma. Studio di possibili segnali di onde gravitazionali emesse da supernovae, e di flussi di particelle di tipo assionico da "neutron star mergers".

● Cosmologia [M. Gasperini, L. Tedesco, E. Pavone]

Applicazione dell'approccio di Hohm-Zwiebach alla cosmologia delle stringhe "classica" e corrispondenti leggi di conservazione. Studio di soluzioni esatte che includono a tutti gli ordini le correzioni di stringa ad alta curvatura, e che descrivono in modo completo, senza singolarità, l'evoluzione "smooth" dal vuoto iniziale di stringa ad uno stato finale tipico dello scenario cosmologico standard.



TAsP – Theoretical Astroparticle Physics

● Prodotti della ricerca:

Queste ricerche hanno portato a svariate pubblicazioni scientifiche e a seminari in congressi internazionali. Fra gli ultimi si segnala il Summary talk (Theory and Phenomenology) di E. Lisi alla conferenza biennale Neutrino 2024, Milano.

● Attività' congruenti su fondi esterni:

PRIN 2022 PANTHEON [*PI Eligio Lisi*]:

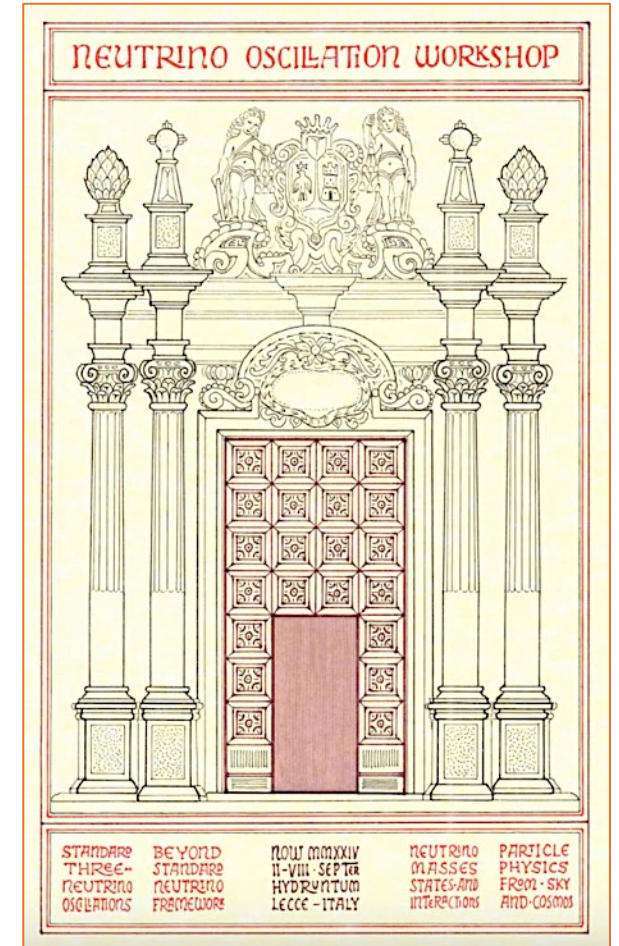
Perspectives in Astroparticle and Neutrino THEory with Old and New messengers;

EU COST ACTION "Cosmic WISPers" [*PI Alessandro Mirizzi*]:

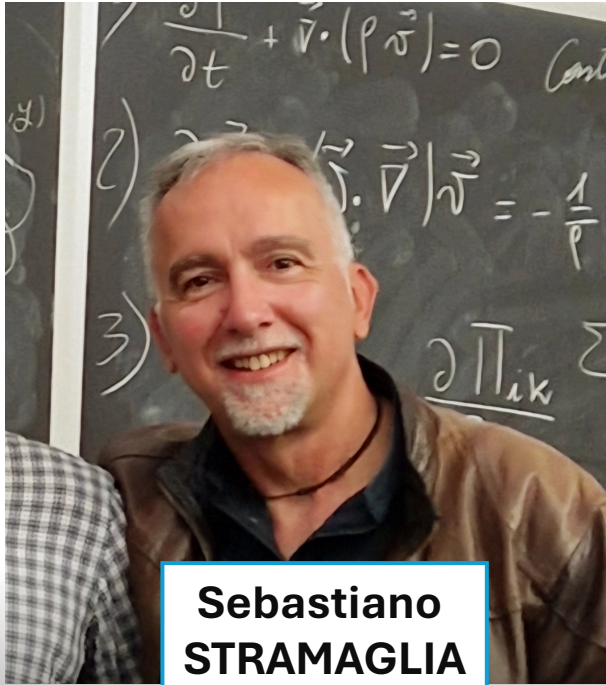
COSMIC WISPers in the Dark Universe: Theory, astrophysics and experiments

● Organizzazione locale di eventi internazionali:

NOW Workshop (Otranto) e **COST meetings** (Bari, Lecce).



Linea 6:
BIOPHYS
Biological Theoretical Physics
&
FIELDTURB
Particles and Fields
in Turbulence and in Complex Flows



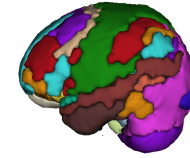
**Sebastiano
STRAMAGLIA**



**Marianna
LA ROCCA**

Attività scientifica: BIOPHYS

Biophys: applicazione dei metodi della fisica teorica all'analisi dei dati da sistemi complessi



Sebino Stramaglia (coordinatore nazionale)

Marianna La Rocca (componente)

Attività: descrizione dei sistemi complessi di natura biologica in termini di higher order complex networks, con

FUNCTIONAL LINKS → FUNCTIONAL HYPERLINKS

HIGHLIGHT: estensione quantistica, con P. Facchi e S. Pascazio

PHYSICAL REVIEW A **109**, 042605 (2024)

Quantifying high-order interdependencies in entangled quantum states

Marco Alberto Javarone,^{1,2,*} Fernando E. Rosas^{3,4,5,6} Paolo Facchi^{1,7} Saverio Pascazio^{1,7}
and Sebastiano Stramaglia^{1,7,†}

¹*Dipartimento di Fisica, Università di Bari, I-70126 Bari, Italy*

²*Dutch Institute for Emergent Phenomena, 1098 XH Amsterdam, Netherlands*

³*Department of Informatics, University of Sussex, BN1 9QJ Brighton, UK*

⁴*Centre for Complexity Science, Imperial College London, SW7 2AZ London, UK*

⁵*Centre for psychedelic research, Department of Brain Sciences, Imperial College London, SW7 2AZ London, UK*

⁶*Centre for Eudaimonia and Human Flourishing, University of Oxford, OX3 9BX Oxford, UK*

⁷*INFN, Sezione di Bari, I-70126 Bari, Italy*



(Received 14 October 2023; revised 13 March 2024; accepted 14 March 2024; published 2 April 2024)

We leverage recent advances in information theory to develop a method to characterize the dominant character of the high-order dependencies of quantum systems. To this end, we introduce the *Q-information*: an information-theoretic measure capable of distinguishing quantum states dominated by synergy or redundancy. We illustrate the measure by investigating the properties of paradigmatic entangled qubit states and find that—in contrast to classical systems—quantum systems need at least four variables to exhibit high-order properties. Furthermore, our results reveal that unitary evolution can radically affect the internal information organization in a way that strongly depends on the corresponding Hamiltonian. Overall, the *Q-information* sheds light on aspects of the internal organization of quantum systems and their time evolution, opening different avenues for studying several quantum phenomena and related technologies.

DOI: [10.1103/PhysRevA.109.042605](https://doi.org/10.1103/PhysRevA.109.042605)



**Lucio
CARENZA**

**Antonio
SUMA**

**Daniela
MORETTI**

**Massimiliano
SEMERARO**

**Giuseppe
GONNELLA**

**Giuseppe
NEGRO**

Attività scientifica: FIELDTURB

Non-equilibrium statistical systems and fluids (FieldTurb)

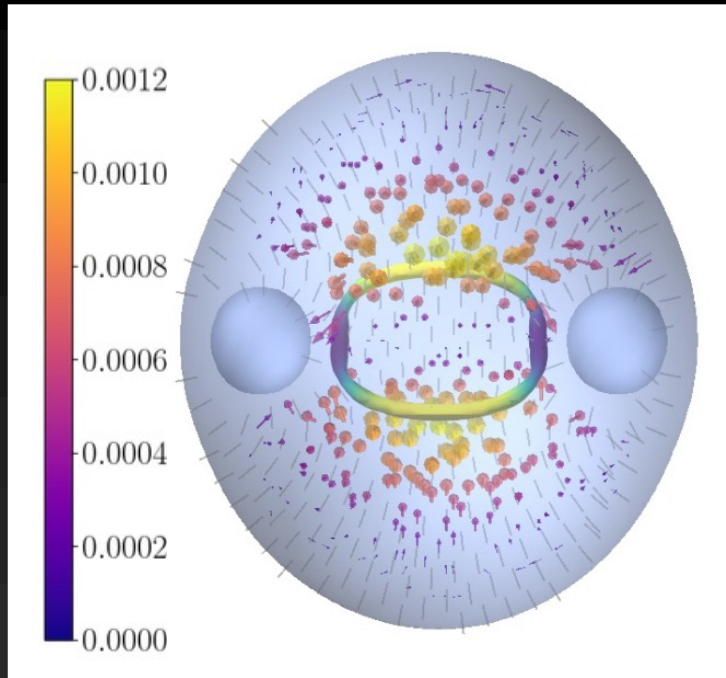
- Giuseppe Gonnella
- Antonio Suma
- Giuseppe Negro
- Claudio Caporusso
- Giovanni Battista Carollo
- Antonio Lamura
- Massimiliano Semeraro



- Theoretical and Analytical studies of Non-equilibrium statistical mechanics models for self-propelled particles
- Molecular Dynamics simulations to study aggregation properties of self-propelled particles in 2D and 3D
- Lattice Boltzmann Simulations of Phase Field Theories of Complex and active fluids

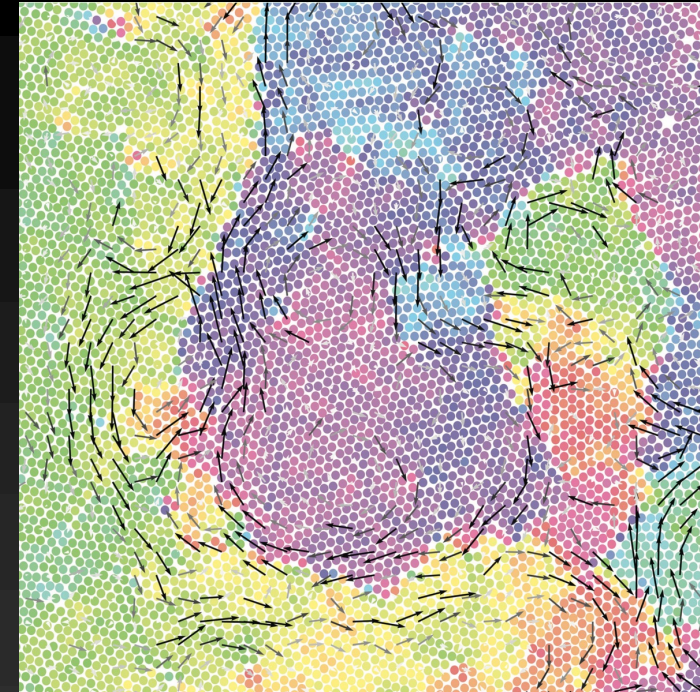
1. C.B. Caporusso, D. Levis, G. Gonnella. **PRL** (2024)
2. L. Head, L. Bonn, G. Negro, G. Gonnella, T. Lopez-Leon, A. Doosdooammadi, D. Marenduzzo, T. Shendruk. **Nat. Phys** (2024)
3. M. Semeraro, A. Suma, M. Zamparo, G. Gonnella. **PRL** (2023)
4. G. Negro, L.N. Carenza, A. Morozov, G. Gonnella, D. Marenduzzo. **Science Advances** (2023)
5. C.B. Caporusso, P. Digregorio, D. Levis, A. Suma, LF Cugliandolo, G. Gonnella. **PRL** (2023)

Non-equilibrium statistical systems and fluids (FieldTurb)



Topology constraints the number of singularities of a vector field on a closed surface. This is also relevant for active nematic droplets, where protein filaments convert chemical energy in local movement of the filaments, that under proper conditions can give rise to coherent motion of the droplet. In this picture we have two standard fluid bubbles immersed in an active nematic droplet. The line corresponds to a topological defect loop, where differently colored segments correspond to a different local defect charge, acting as a rotor as highlighted by the velocity field (colored arrows)

G. Negro and G. Gonnella under review Nat. Com. 2024, L. Head, G. Negro et al. Nat. Phys. 2024



In this work we show how the phase diagram of Lennard Jones particles is changed by the presence of chiral interactions, where neighboring particles rotate one with respect to the other. This configuration taken from numerical simulations performed on ReCas and Cineca, show the presence of domains of different orientation, together with the presence of velocity currents on the boundaries of the domains

C. Caporusso & G. Gonnella PRL 2024

These kind of models are relevant as examples of **non equilibrium systems**, with potential applications in drug delivery

Eventi organizzati/in programmazione

QCD@Work 11th edition

International Workshop on Quantum Chromodynamics
Theory and Experiment



June 18 – 21
2024

Trani (Italy)
Palazzo delle Arti Beltrani

Scientific Advisory Committee
E.C. Aschauer (Brookhaven National Laboratory)
A. De Ruck (CERN)
L. Fabbietti (Technische Universität München)
F. Ferri (CERN and INFN)
M. Mangano (CERN)
G. Martinelli (Accademia Nazionale dei Lincei)
M. Shifman (University of Minnesota)
G. Sterman (SUNY Stony Brook)

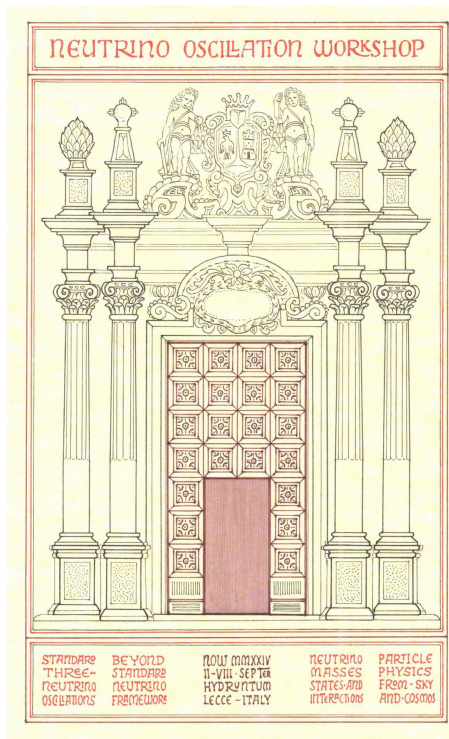
Local Organizing Committee
G.E. Bruno (Bari) G. Chiodini (Lecce)
P. Colangelo (Bari) C. Coriano (Lecce)
D.M. Creanza (Bari) F. De Fazio (Bari)
F. Giannuzzi (Bari) S. My (Bari)
E. Nappi (Bari) S. Nicotri (Bari)

low energy and nonperturbative QCD - advances in perturbative QCD
heavy quarks - QCD in extreme conditions of temperature and density
holographic methods for strong interactions

workshop.qcd@ba.infn.it
www.ba.infn.it/wqcd/2024



Istituto Nazionale di Fisica Nucleare - Università degli Studi di Bari "Abate Muzio" - Politecnico di Salento - Dipartimento Interateneo di Fisica
"Vincenzo Meuli" Bari - Dipartimento di Matematica e Fisica "Torino De Giorgi" Lecce



QUANTUM²⁰²⁴

Summer School on Quantum Science and Technologies
Bari (Italy) | 16-20 September 2024

Organized by:

Within projects:

The **Quantum 2024 Summer School** is oriented to master students, PhD students, and young researchers. It will provide a **comprehensive vision of quantum technologies** both on theory and experiments. The school is organized in the framework of the project QUASIMODO: Quantum Sensing and Modeling for One Health, for which the Department of Physics in Bari has been recognized as a Department of Excellence by the MUR.

LECTURE TOPICS on QUANTUM PILLARS

- Quantum Sensing, Metrology and Imaging
- Quantum Information and Computing
- Quantum Simulation
- Quantum Communications

LECTURERS	SCIENTIFIC COMMITTEE	ORGANIZING COMMITTEE
Antonio Acín (ICFO, Barcelona)	Milena D'Angelo (UniBa & INFN)	Paolo Facchi (UniBa & INFN)
Alexia Auffèves (Majubab, Singapore) TBC	Saverio Pascazio (UniBa & INFN)	Augusto Garuccio (UniBa)
Tommaso Calarco (University of Ulm) TBC	Marco Genovese (INRIM)	Francesco Pepe (UniBa & INFN)
Ivo P. Degiovanni (INRIM, Turin)	Ruo Berchera (INRIM)	Giuseppe Magnifico (UniBa)
Nicole Fabbri (LENS, Florence)	Roberta Zambini (IFISC, Spain)	Giovanni Gramigna (UniBa)
Daniele Faccio (UoG, Glasgow) TBC		Gianvito Lucivero (UniBa)
Alessandra Gatti (CNR-IFN, Milan)		Maria Maffei (UniBa)
Chiara Macchiavello (University of Pavia) TBC		Gianlorenzo Massaro (UniBa & INFN)
Sabrina Maniscalco (University of Helsinki)		Nigam Samantaray (UniBa)
Morgan Mitchell (ICFO, Barcelona)		Domenico Pomarico (UniBa)
Simone Montangero (University of Padova)		Davide Giannella (UniBa & INFN)
Fabio Sciarini (Sapienza University of Rome)		Sergio De Gioia (UniBa & INFN)
Nicolas Treps (IKS, Paris)		Giuseppe Lerario (UniBa & INFN)
Alessandro Zavatta (CNR-INO, Florence)		Cosmo Lupo (Poliba)
Harald Weinfurter (MPQ, Munich) TBC		Giovanni Scala (Poliba & INFN)
		Alessio Avella (INRIM)
		Alice Meda (INRIM)

Website: <https://agenda.infn.it/e/2024>
Contacts: milena.dangelo@uniba.it, francesco.pepe@ba.infn.it

+ ripristino del Christmas workshop

Anagrafica

cognome	nome	note	modulo	contratto	profilo	aff	BIOPHYS	FIELDTURB	NPQCD	PNRR_PRINZ4P4B	PRIN_2022E2J4RK	QUANTUM	SPIF	TASP	perc	tot
Acquaviva	Riccardo		G1	Ass	Scientifica Dottorandi	4						100			QUANTUM - 100%	100
Ali	Aaqib		G1	Ass	Scientifica Dottorandi	4						100			QUANTUM - 100%	100
Amato	Daniela		G1	Ass	Scientifica Assegni non INFN	4						100			QUANTUM - 100%	100
Ammara	Ammara		G1	Ass	Scientifica Dottorandi	4						100			QUANTUM - 100%	100
Buono	Giuseppe		G1	Ass	Scientifica Dottorandi	4						100			QUANTUM - 100%	100
Caporusso	Claudio Basilio		G1			4		100							FIELDTURB - 100%	100
Carenza	Lucio Mauro		G1			4		100							FIELDTURB - 100%	100
Carollo	Giovanni Battista		G1	Ass	Scientifica Dottorandi	4		100							FIELDTURB - 100%	100
Cea	Paolo		G1	Ass	Associazione Senior	4			100						NPQCD - 100%	100
Colangelo	Pietro		G1	Ass	Associazione Senior	4							100		SPIF - 100%	100
Cosmai	Leonardo		G1	Ass	Associazione Senior	4			75						NPQCD - 75%	75
Cunden	Fabio Deelan		G1	Ass	Scientifica Ricercatori/Professori univ.	4						100			QUANTUM - 100%	100
D'Angelo	Milena		G1	Ass	Incarico di Ricerca scientifica	5						10			QUANTUM - 10%	10
Das	Debmalya		G1	Ass	Scientifica Ricercatori/Professori univ.							20			QUANTUM - 20%	20
De Fazio	Fulvia	MC_C3M 10 ore	G1	Dip	Dirigente di Ricerca	4				5			95		SPIF - 95% PNRR_PRINZ4P4B - 5%	100
Facchi	Paolo		G1	Ass	Incarico di Ricerca scientifica	4						100			QUANTUM - 100%	100
Florio	Giuseppe		G1	Ass	Incarico di Ricerca scientifica	4						100			QUANTUM - 100%	100
Gasperini	Maurizio	Associato Senior	G1	Ass	Associazione Senior	4								100	TASP - 100%	100
Giannuzzi	Florian		G2	Dip	Tecnologo	4				20			80		SPIF - 80% PNRR_PRINZ4P4B - 20%	100
Gonnella	Giuseppe		G1	Ass	Incarico di Ricerca scientifica	4		100							FIELDTURB - 100%	100
Gramegna	Giovanni		G1	Ass	Scientifica Ricercatori/Professori univ.	4						20			QUANTUM - 20%	20
La Rocca	Mariafina		G1	Ass	Scientifica Ricercatori/Professori univ.	4	70								BIOPHYS - 70%	70
Lamura	Antonio		G1	Ass	Scientifica Dipendenti altri enti	4		100							FIELDTURB - 100%	100
Lella	Alessandro		G1	Ass	Scientifica Dottorandi	4							100		TASP - 100%	100
Lisi	Eligio	PRIN (15%) congruente TASP (85%) - 25 ore ASIMOV_C3M	G1	Dip	Dirigente di Ricerca	4					15			85	TASP - 85% PRIN_2022E2J4RK - 15%	100
Loparco	Franco		G1	Dip	Assegno di Ricerca	4							100		SPIF - 100%	100
Losacco	Nicola		G1	Ass	Scientifica Dottorandi	4							100		SPIF - 100%	100
Lupo	Cosmo		G1	Ass	Scientifica Ricercatori/Professori univ.	7						40			QUANTUM - 40%	40
Maffei	Maria		G1	Ass	Scientifica Ricercatori/Professori univ.	4						20			QUANTUM - 20%	20
Maggi	Rocco		G1			4						100			QUANTUM - 100%	100
Magnifico	Giuseppe		G1	Ass	Scientifica Ricercatori/Professori univ.	4			80			20			NPQCD - 80% QUANTUM - 20%	100
Marrone	Antonio		G1	Ass	Incarico di Ricerca scientifica	4								90	TASP - 90%	90
Massaro	Gianlorenzo		G1			5						10			QUANTUM - 10%	10
Mirizzi	Alessandro		G1	Ass	Incarico di Ricerca scientifica	4							100		TASP - 100%	100
Moretti	Daniela		G1	Ass	Scientifica Dottorandi	4		100							FIELDTURB - 100%	100
Negro	Giuseppe		G1	Ass	Scientifica Ricercatori/Professori univ.	4		20							FIELDTURB - 20%	20
Nicotri	Stefano		G2	Dip	Tecnologo	7							20		SPIF - 20% PNRR_PRINZ4P4B - 10%	30
Palazzo	Antonio		G1	Ass	Incarico di Ricerca scientifica	4								100	TASP - 100%	100
Pascasio	Saverio		G1	Ass	Incarico di Ricerca scientifica	4						90			QUANTUM - 90%	90
Pavone	Eliseo		G1	Ass	Scientifica Dottorandi	4								100	TASP - 100%	100
Pepe	Francesco Vincenzo		G1	Ass	Scientifica Ricercatori/Professori univ.	4						60			QUANTUM - 60%	60
Pomarico	Domenico		G2	Ass	Tecnologica Personale E.P.	4	100								BIOPHYS - 100%	100
Scala	Giovanni		G1	Ass	Scientifica Ricercatori/Professori univ.	4						70			QUANTUM - 70%	70
Semeraro	Matthilano		G1			4		100							FIELDTURB - 100%	100
Stramaglia	Sebastiano		G1	Ass	Incarico di Ricerca scientifica	4	80								BIOPHYS - 80%	80
Suma	Antonio		G1	Ass	Scientifica Ricercatori/Professori univ.	4		100							FIELDTURB - 100%	100
Tedesco	Luigi		G1	Ass	Incarico di Ricerca scientifica	4								100	TASP - 100%	100
Viesti	Vito Giuseppe		G1	Ass	Scientifica Dottorandi	4						100			QUANTUM - 100%	100
Viggiano	Viviana		G1	Ass	Scientifica Dottorandi	4						100			QUANTUM - 100%	100

- Staff

■ Senior

■ RTDA

■ Postdoc

■ PhD
- Afferenza altre CSN

Anagrafica

SPIF

Nome	Associazione	Percentuale di afferenza
De Fazio Fulvia	Dirigente di Ricerca	95%
Giannuzzi Floriana	Tecnologo	80%
Colangelo Pietro	Ass. Senior	100%
Loparco Francesco	Assegni INFN	100%
Losacco Nicola	PhD	100%
Nicotri Stefano	Tecnologo CCR	20%

TASP

Nome	Associazione	Percentuale di afferenza
Lisi Eligio	Dirigente di Ricerca	85%
Marrone Antonio	Prof. Ordinario	90%
Mirizzi Alessandro	Prof. Ordinario	100%
Palazzo Antonio	Prof. Associato	100%
Tedesco Luigi	Prof. Associato	100%
Gasperini Maurizio	Ass. Senior	100%
Lella Alessandro	PhD	100%
Pavone Eliseo	PhD	100%

FIELDTURB

Nome	Associazione	Percentuale di afferenza
Gonnella Giuseppe	Prof. Ordinario	100%
Suma Antonio	RTDB	100%
Negro Giuseppe	RTDA	20%
Carenza Lucio	Assegni non INFN	100%
Semeraro Massimiliano	Assegni non INFN	100%
Carollo Giovanni Battista	PhD	100%
Moretti Daniela	PhD	100%

BIOPHYS

Nome	Associazione	Percentuale di afferenza
Stramaglia Sebastiano	Prof. Ordinario	80%
La Rocca Marianna	RTDA	70%
Pomarico Domenico	Assegni non INFN	100%

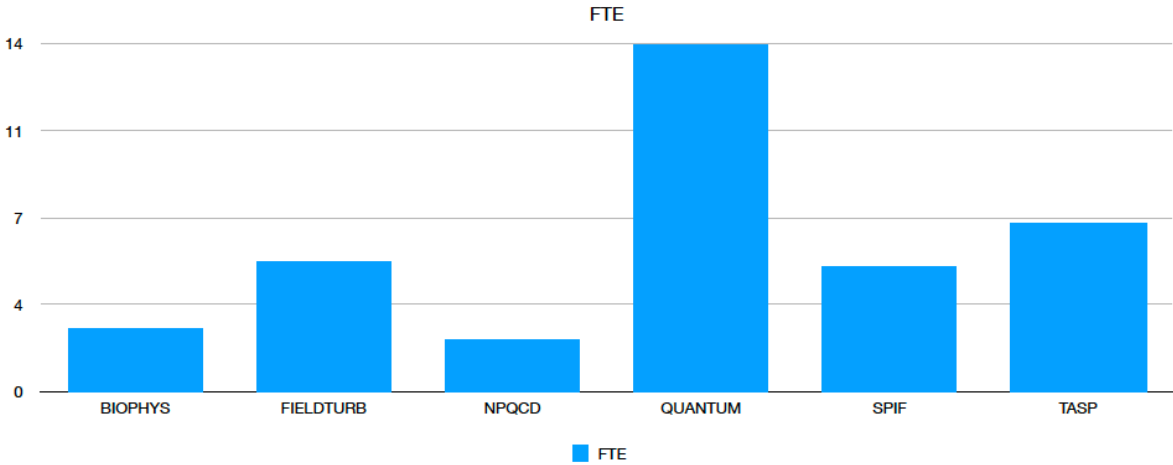
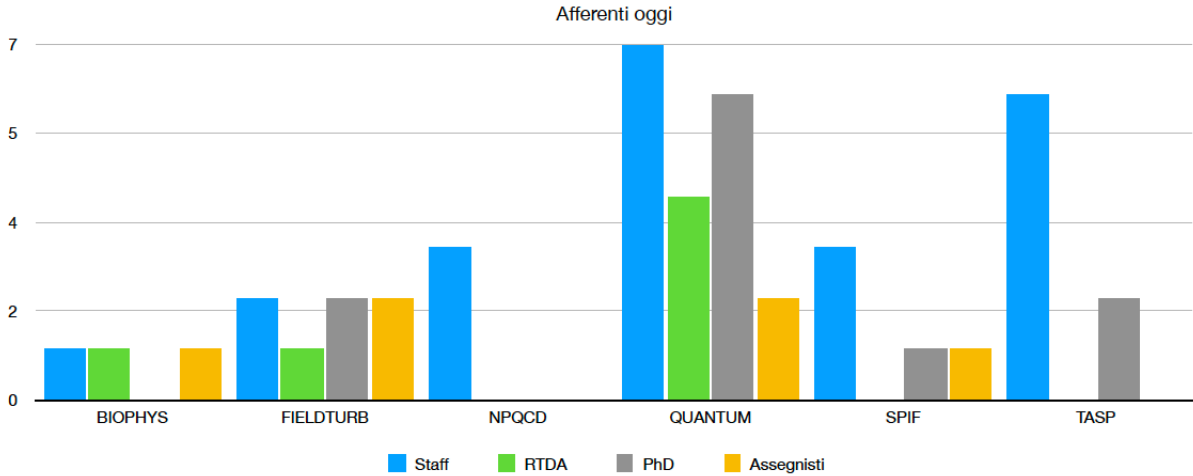
NPQCD

Nome	Associazione	Percentuale di afferenza
Magnifico Giuseppe	RTDB	80%
Cea Paolo	Ass. Senior	100%
Cosmai Leonardo	Ass. Senior	75%

QUANTUM

Nome	Associazione	Percentuale di afferenza
Cunden Fabio	RTDB	100%
Facchi Paolo	Prof. Ordinario	100%
Florio Giuseppe	Prof. Ordinario	100%
Lupo Cosmo	Prof. Associato	40%
Magnifico Giuseppe	RTDB	20%
Pascazio Saverio	Prof. Ordinario	90%
Pepe Francesco	Prof. Associato	60%
Das Debmalya	RTDA	20%
Gramegna Giovanni	RTDA	20%
Maffei Maria	RTDA	20%
SCALA Giovanni	RTDA	70%
Amato Daniele	Assegni non INFN	100%
Maggi Rocco	Assegni non INFN	100%
Acquaviva Riccardo	PhD	100%
Ali Aaqib	PhD	100%
Ammara	PhD	100%
Buono Giuseppe	PhD	100%
Viesti Vito	PhD	100%
Viggiano Viviana	PhD	100%
D'Angelo Milena	Prof. Associato CSN5	10%

Anagrafica



Afferenti oggi

	Staff	RTDA	Assegnisti	PhD
BIOPHYS	1	1	1	0
FIELDTURB	2	1	2	2
NPQCD	3	0	0	0
QUANTUM	7	4	2	6
SPIF	3	0	1	1
TASP	6	0	0	2
TOTALE	22	6	6	11

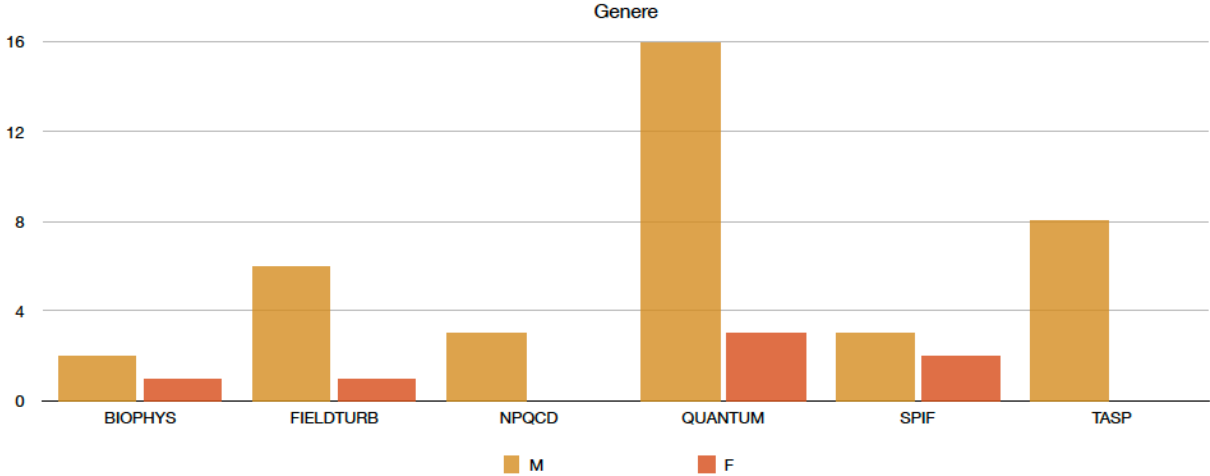
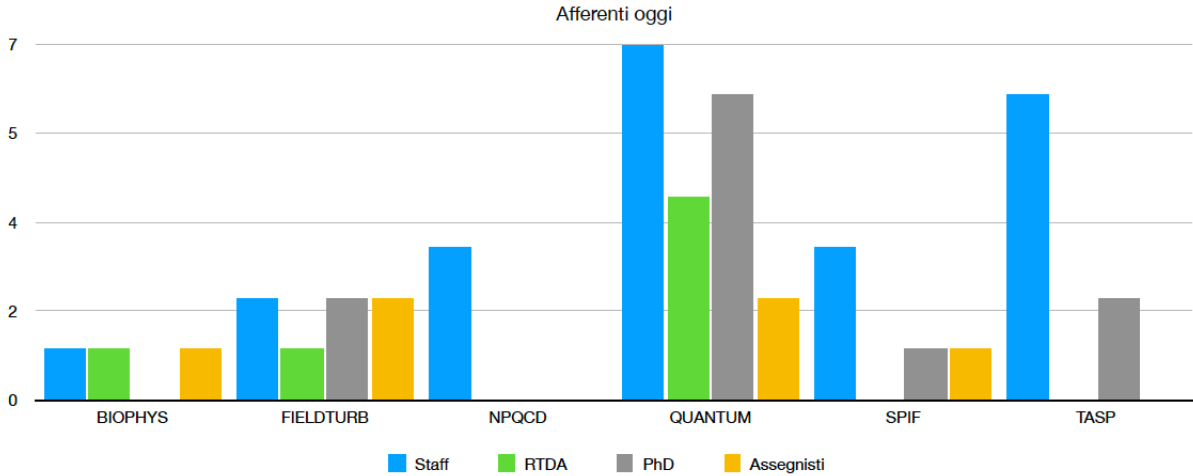
FTE (arrotondato)

	FTE
BIOPHYS	3
FIELDTURB	5
NPQCD	2
QUANTUM	14
SPIF	5
TASP	7
TOTALE	36



di cui 3 INFN

Anagrafica



Afferenti oggi

	Staff	RTDA	Assegnisti	PhD
BIOPHYS	1	1	1	0
FIELDTURB	2	1	2	2
NPQCD	3	0	0	0
QUANTUM	7	4	2	6
SPIF	3	0	1	1
TASP	6	0	0	2
TOTALE	22	6	6	11



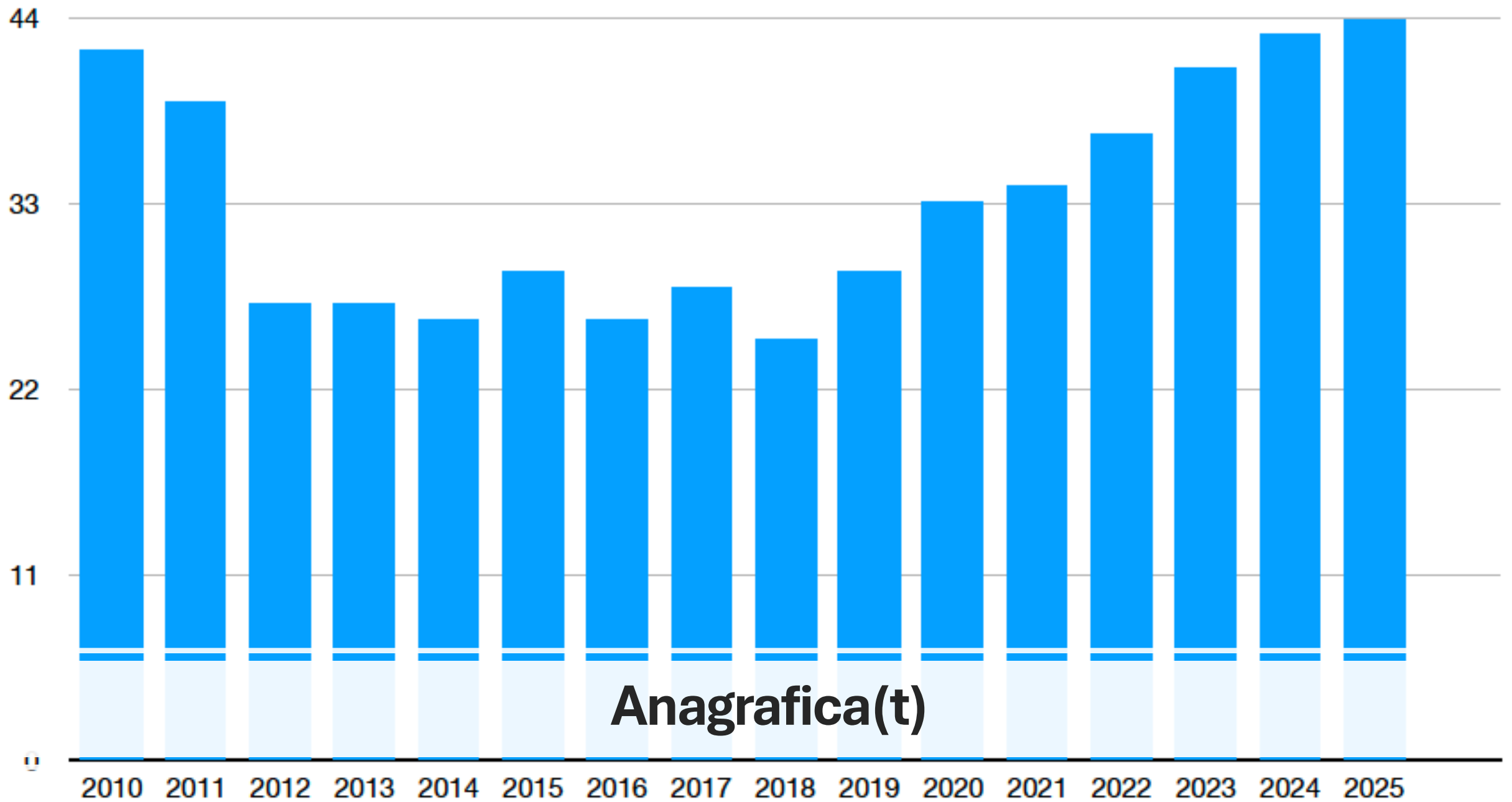
di cui 3 INFN

Genere

	M	F
BIOPHYS	2	1
FIELDTURB	6	1
NPQCD	3	0
QUANTUM	16	3
SPIF	3	2
TASP	8	0
TOTALE	37	7



di cui 2 staff INFN



Richieste

Richiesta Servizio Calcolo: 4 mesi uomo

RICHIESTE (kEuro)

IS	MISSIONI (rimborso per viaggio e trasloco)	INVITI PER STRANIERI (indennità missione trasferta)	CONSUMI (strumenti tecnico-specifici)	SEMINARI (organizzazione e partecipazione manifestazioni e convegni)	MANUTENZIONE ordinaria e riparazioni attrezzature	INVENTARIO (Attrezzature scientifiche)	LICENZE SW
BIOPHYS	3,5						
FIELDTURB	19						
NPQCD	5						
QUANTUM	20						
SPIF	8						
TASP	14						
TOTALE IS	69,5						
DOTAZIONE 4	18	8	16	8	2	17	7
TOTALE	87,5						

Grazie a

- **Enza D'Alba** per la collaborazione tecnico-amministrativa
- **Enza D'Alba** e **Leo Moccia** per l'aiuto con l'anagrafica
- **A. Casale, A. Ceres, V. Spinoso** per il supporto
- A **tutta l'amministrazione** e ad **A. Marrone** per le consulenze nei miei primi mesi da coordinatore