

Concorso n. 23403/2021 per titoli ed esami per 1 posto per il profilo professionale di Tecnologo di III livello professionale, per assunzione a tempo indeterminato presso l'Amministrazione Centrale dell'INFN

Prova orale 1

1. Il candidato illustri l'istituto della mobilità del personale tra Amministrazioni Pubbliche.
2. Il candidato descriva le diverse modalità di accesso ai documenti della Pubblica Amministrazione.
3. Il candidato descriva le funzionalità delle tabelle pivot.
4. Il candidato legga e traduca in italiano il seguente testo inglese, tratto dalla rivista Cerncourier, November/Dicember 2019 - cerncourier.com, pag. 23.



NEW TRENDS IN HIGH ENERGY PHYSICS

Odessa conference surveys new trends

The 2019 edition of New Trends in High Energy Physics took place in Odessa, Ukraine, from 12 to 18 May, with 84 participants attending from 21 countries. Initiated by the Bogolyubov Institute for Theoretical Physics at the National Academy of Sciences in the Ukraine and the Joint Institute for Nuclear Research (JINR) in Dubna, the series focuses on new ideas and hot problems in theory and experiment. The series started in 1992 in Kiev under the name HADRONS, changed its title to "New Trends in High-Energy Physics" at the turn of the millennium, took place for a decade in the Crimea, then moved to Natal (Brazil) and Becici (Montenegro), before coming back to Ukraine this year.

This year's conference had an emphasis on heavy-ion physics and strong interactions, with aspects of the QCD phase diagram such as signatures of the transition from quark-gluon plasma to hadrons highlighted in several talks. The interpretation of recent experimental results on collectivity (the bulk motion of nuclear matter at high temperatures) in terms of the formation of a "perfect liquid" was also discussed.



Future searches for glueballs and other exotic hadronic states will contribute to an improved understanding of non-perturbative aspects of QCD.

Parallel to the quest for the highest possible energies, many problems of low- and intermediate-energy physics are still unresolved, such as the critical behaviour of excited baryonic matter, the nature of exotic resonances and puzzles relating to spin. The construction of new facilities will help answer these questions, with

Into the abyss
Maciej Trzebinski (PAN Cracow) describes the perilous journey from classical physics to the future.

high-luminosity collisions of particles ranging from polarised protons to gold ions at JINR-Dubna's NICA facility, complemented by fixed-target antiproton and ion studies with unprecedented collision rates at FAIR, the new international accelerator complex at GSI Darmstadt.

Talks on general relativity and cosmology, dark matter and black holes explored the many facets of modern astrophysical observations. Future multi-messenger observations, combining the measurements of the electromagnetic radiation spectrum and neutrinos with gravitational wave signals, are expected to contribute significantly to an improved understanding of the dynamics of binary black-hole and neutron-star mergers. Such measurements are of great significance for a variety of open issues, for example, nuclear physics at densities far beyond the regime accessible in laboratory experiments.

The next edition of the conference will be held in Kiev from 27 June to 3 July 2021.

Jamal Jalilian-Marian CUNY,
Richard Lednicky JINR-Dubna and
Rainer Schicker Heidelberg.

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Prova orale 2

1. Il candidato illustri il regime autorizzatorio nell'ambito degli incarichi extra istituzionali nella Pubblica Amministrazione.
2. Il candidato illustri il ciclo di gestione della performance e l'impatto sulle attività lavorativa.
3. Il candidato descriva le diverse funzionalità della piattaforma TEAMS.
4. Il candidato legga e traduca in italiano il seguente testo inglese, tratto dalla rivista Cerncourier, volume 55, number 6, July/August 2015, pag. 11.

FUTURE FACILITIES

EuroCirCol: a key to new physics

EuroCirCol, the EC-funded part of the Future Circular Collider (FCC) study that will develop the conceptual design of an energy-frontier hadron collider, officially started on 1 June. The "kick-off" event at CERN on 2–4 June brought together 62 participants to constitute governance bodies, commit to the project plan and align the organization, structures and processes of 16 institutions from 10 countries. The goal of the project is to conceive a post-LHC research infrastructure around a 100-km circular hadron collider capable of reaching 100-TeV collisions. The project will run for four years, with a total estimated budget of €11.2 million, which includes a €2.99 million contribution from the European Commission's Horizon 2020 programme on developing new world-class research infrastructures.

EuroCirCol will deliver a design for a hadron collider as part of the broader FCC study (*CERN Courier* April 2014 p16). It will provide input to an accelerator-infrastructure road map, taking into account European and global interests by the time of the next update of the European Strategy for Particle Physics in 2018. It was the only one of 39 submissions to receive the maximum points from reviewers, a clear sign that high-energy physics remains a top priority for the European Commission.

EuroCirCol is organized around four technical work packages. The first two



Participants at EuroCirCol's first meeting in June. (Image credit: OPEN-PHO-ACCEL-2015-008-1)

are to develop the collider's lattice and beam optics, including the experimental regions. A third develops prototypes and tests a novel cryogenics beam-vacuum system that can respond to the challenges of the high levels of synchrotron radiation expected at such a collider. This work also pioneers collaboration between the particle-physics and light-source communities, with opportunities to improve existing synchrotron-radiation facilities and to reduce cost and performance of fourth- or fifth-generation light sources. The fourth work package will study a viable design for a 16-T accelerator magnet, as part of a worldwide study of conductor R&D for the High-Luminosity LHC project and the FCC.

The EuroCirCol project is set to create

opportunities for doctoral and postdoctoral assignments in the areas of beam optics and accelerator technologies, in the participating institutes. It will also provide excellent training opportunities for the next generation of accelerator physicists, under the guidance of world-renowned experts in the field.

As a building block in the globally co-ordinated strategy of the FCC study to produce a global design for a global machine, EuroCirCol's main outcome will be to lay the foundations for subsequent research-infrastructure development that will strengthen Europe as a leader in global research co-operation over the coming decades.

● For more information about EuroCirCol, visit cern.ch/eurocircol.

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