



Il Colle di
Galileo

Cortona Young (online conference)

Galileo Galilei Institute – Florence – May 27-29, 2020
Organizing Committee: Anna Ceresole, Marialuisa Frau,
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Abstract. The e-Conference “Cortona Young”, hosted by the GGI on May 27-29, 2020, was set up as a response to the postponement of the 2020 edition of the Italian National Meetings “New Frontiers in Theoretical Physics - Convegno di Fisica Teorica di Cortona”, due to the COVID-19 pandemic. The conference was primarily addressed to young researchers, graduate students and postdocs connected with the Italian community of theoretical high energy physics. The aim was to give visibility to their most recent results in spite of the difficult situation for scientific exchanges. The program consisted of 12 live web-seminars, selected among over 50 applications, and of 24 video posters, made available through the GGI YouTube channel. The selected topics covered many different aspects of theoretical high energy physics, ranging from field and string theory to statistical mechanics, phenomenology and astroparticle physics. There were over 140 online participants, who were able to enter different virtual rooms for more focused discussion sessions. A special committee selected the best seminar, whose speaker was awarded a plenary talk in the next live edition of the Cortona meeting.

Keywords. Theoretical High Energy Physics.

Summary of the conference:

The National bi-annual Conference “New Frontiers in Theoretical Physics”, which traditionally takes place in the late spring in Cortona, in the Palazzone of the Scuola Normale Superiore di Pisa, has for many years been the key occasion for the entire community of Italian high-energy theoretical physicists to join and discuss research results and perspectives in this area. The scientific focus covers a wide range of topics, from formal aspects of field theory and statistical mechanics to astroparticle physics as well as the more applied lines of phenomenology.

One of the most distinctive features of this conference is the emphasis given to the participation of early stage researchers: at least half of the participants are usually young Ph.D. students and postdocs, and almost all specialist talks are delivered by them.

The XXXVII edition of the conference, organized by the Physics Department of the University of Turin and the Turin division of the National Institute

of Nuclear Physics, was originally scheduled for May 2020. However, the spring outbreak of the COVID-19 pandemic obviously forced us to postpone the event.

The idea of organizing “Cortona Young”, an on-line version of the conference, originated from discussions between the director of the GGI and the organizing committee as a response to the need of maintaining contact among the members of the Italian community of theoretical physics during the lockdown period. It also allowed younger colleagues to preserve the opportunity to present the results of their work, to acquire visibility and to be part of a networking event in view of their next career steps. The proposal was very well received, and the online conference took place from 27 to 29 May, with strong participation from both young and senior scientists.

The scientific program included 12 seminars of 20 minutes by live video, all given by Ph.D. students and postdocs. The presentations were selected by the organizers among more than 50 proposals, covering different aspects of theoretical physics, including supersymmetric and conformal field theories, integrability, string theory, black holes, gravitational waves, heavy quark physics and standard model physics. Twenty-four more contributions were presented in the form of ten-minute video posters, recorded by the speakers and posted on the GGI YouTube channel, where they are still available. These contributions were also discussed in several special virtual breakout sessions, chaired by senior participants.

The new video-poster format for the presentation of the short contributions was greatly appreciated, both by speakers and conference participants. The speakers experimented with different technical solutions for recording their videos: from the simplest arrangement, with slides and background voice, to technically more complex presentations, in which the audio was synchronized with the animated videos. In all cases, the results were very interesting and showed us that this format could be useful in many other contexts.

A special committee, composed of E. Ercolessi (University of Bologna), A. Lerda (University of Eastern Piedmont), G. Martinelli (University of Rome - La Sapienza), G. Mussardo (SISSA), S. Pascoli (Durham University), M. Petrini (Sorbonne Université) and F. Piccinini (INFN Pavia), awarded the prize for the best seminar to Elisa Maggio (University of Rome “La Sapienza”) for her talk on “Gravitational wave signatures of exotic compact objects”. She will therefore have the opportunity to give a plenary seminar on this topic in the next live edition of the Cortona Conference. A special mention was given to Giovanni Pellizzoli (Universität Würzburg) for his talk on “Polarized Weak Bosons at the LHC”.

Taking into account an online vote by participants, the organizing committee awarded two ex-aequo prizes for the best video posters to Chiara Signorile-Signorile of Torino University, who gave an original and very effective presentation on “Dealing with Infrared singularities in perturbative QCD”, and to Carlo Heissenberg of Nordita & Uppsala U, who spoke on “Black-hole scattering from amplitudes in any Dimension”.

This event was hosted on the GGI website and broadcast under the Zoom-Cern license. Domenico Orlando doubled up as organizer and magician, dealing with all technical aspects of the presentations. The website of the meeting, including all presentation slides, is available at the address https://www.ggi.infn.it/cortona_young.

New Frontiers in Theoretical Physics
Convegno nazionale di fisica teorica

CORTONA YOUNG
e-Conference
for young researchers

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27-29 May 2020

Organizers
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Figure 1. Poster of the e-Conference.