

# LC11 Workshop: Understanding QCD at Linear Colliders

in searching for old and new physics

<http://www.lnf.infn.it/conference/2011/lc11/>

12-16 September 2011

ECT\*, Villa Tambosi

<http://www.ectstar.eu/>

**Bulletin n. 2 – June 12, 2011**



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## General

This Workshop is part of a series of workshops on physics at Linear Colliders, organized in Italy every year to stimulate and gather together the Italian community interested in Linear Colliders. The workshop invites scientists from everywhere in the world to discuss together directly and indirectly topical arguments related to Linear Colliders. Previous editions have taken place in Florence, Perugia and Frascati. This year the main topic chosen is QCD and the venue is the European Center for Theoretical Studies in Nuclear Physics and Related areas, in Trento, Italy.

## Venue

The ECT\* is located a few km uphill from the center of Trento and can be reached by a short bus ride from the main hotels, where the participants will be hosted. The city of Trento is the gateway to Italy from Northern Europe, 139 Km away from the Brenner Pass, and 348 Km by car from Munich, in Germany.

Trento has a long history as center of art and culture, and is a good starting point for excursions to the Dolomite valleys, which can be reached by one or two hours drive to the North, West and eastwards. September is usually also a very good time to visit the apple growing valleys, and the many vineyards. Famed Wine Roads are close by, most of them just a short ride away from Trento, to the North.

There is no international airport in Trento itself, but Trento is connected to major airports like Verona, Venice, Milan, Munich, Rome via highways and trains. Complete information on the ECT\* and how to reach Trento can be found at the ECT\* website <http://www.ectstar.eu>. Some general information is also presented below.

## **Travel**

On Monday September 12, a shuttle bus can be organized to take participants from the closest airport, in Verona, to Trento. The bus would leave from the arrivals terminal at 1 pm and travel takes approximately 1 and ½ hour. Workshop sessions will start at 3 pm. Participants planning to use the shuttle bus should inform [maria.cristina.damato@lnf.infn.it](mailto:maria.cristina.damato@lnf.infn.it). Please check with the web pages for final scheduling of the bus.

### **Participants arriving by car:**

Traveling to Trento by car is easy and most enjoyable. Trento is located along a major Italian highway, A22, leading to Austria and Germany, through the Brenner Pass. With a car it is possible to visit the many beautiful tourist locations in the Dolomites, or reach Venice, or visit the nearby WWI Austrian military installations, meant to defend the access to the region and still very well preserved.

Approximate car distances are:

- From Verona ~ 90 Km via A22
- From Venice ~ 219 Km via A4 and A22
- From Milan ~ 253 Km via A4 and A22
- From Munich ~ 340 Km via A13 and A22 (crossing through Austria)

From A22 take exit “Trento center” and follow instructions from ECT\* website. The ECT\* is located in Villazzano, on the hills just above Trento, on the east side.

Participants arriving by **air** :

- The **Verona** “Valerio Catullo Villafranca” airport is the closest to Trento (90 Km). Car transportation, for participants not able to take the shuttle bus on Monday, can be organized but the cost will have to be supported by the participants. There is a bus connection between the Airport and the city’s main railway station “Verona Porta Nuova” and from there one can reach Trento within **1 hour** by train. There are trains every 40 minutes <http://www.trenitalia.it>
- The next closest airport is **Venice** airport “Marco Polo”, 217 Km away from Trento. From the airport you need to go to the train station and then take a train for Trento. Travel lasts approximately 3 hours.
- **Milan** and **Rome** airports are further away, in either case you can take a train to the railroad stations, Milano Centrale or Roma Termini, and from there a train to Trento.

Participants traveling by **train** can consult <http://www.trenitalia.it> (for Italian travels) :

from Verona: you can reach Trento RR station within 1 hour by train;  
from Milan or Venice: trains to Trento need a change in Verona;  
from Rome: there is a no-stop train at 8:05 am which takes 4 hours;  
from München: there are frequent train connections and travel takes ~4 hours (<http://www.bahn.de>).

## **Timetable**

The workshop will start on Monday September 12, after lunch, so as to allow participants to arrive in the morning and settle before the start of the talks. An excursion to one of nearby valleys will be organized on Wednesday afternoon. A visit to the “Castello del Buon Consiglio” can also be organized. The Workshop will end on Friday September 16, at lunch time.

## **Registration and Accommodation**

The Workshop charges no registration fee. Accommodation in Hotels in Trento will be organized by the ECT\*. Participants will be notified by e-mail of details of accommodation after registration. They will be hosted in a number of three-star hotels in the city of Trento. Local bus n. 6, easily reachable from all hotels, will take participants to the Workshop venue at ECT\*. A map of hotels and bus lines will be provided with the final bulletin,

details about local transportation can be found on the ECT\* website.

## **Proceedings**

Pending financial confirmation, we plan to publish proceedings. Instructions will be given during the Workshop.

## **Outline of the scientific programme**

Status of the LC projects and their connections with the LHC

Precision measurements at e+e- colliders

The structure of QCD from the multi-TeV to the GeV scale

QCD: from partons to hadrons

Higgs and Top physics

Physics beyond the Standard Model

Photon-photon physics

The future of QCD in e+e- physics

Medium energy projects in future e+e- physics

## **Secretariat and Contacts**

The Workshop local organization is done through the ECT\* and Ms. Ines Campo, [inecampo@ectstar.eu](mailto:inecampo@ectstar.eu) is in charge of the local organization. For information about the scientific program please contact anyone of the organizers or conveners, for other information [giulia.pancheri@lnf.infn.it](mailto:giulia.pancheri@lnf.infn.it) or [maria.cristina.damato@lnf.infn.it](mailto:maria.cristina.damato@lnf.infn.it).

## **Scientific organization**

The scientific planning is based on an Organizing Committee and 9 conveners responsible for organizing the various sessions.

*Organizing Committee:*

Stefania De Curtis ([stefania.decurtis@fi.infn.it](mailto:stefania.decurtis@fi.infn.it)),

Albert De Roeck ([deroeck@mail.cern.ch](mailto:deroeck@mail.cern.ch)),

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Francois Richard ([richard@lal.in2p3.fr](mailto:richard@lal.in2p3.fr))

*Conveners:*

Higgs physics - Elena Accomando (NExT Institute, Southampton U.)

SUSY - Francesca Borzumati (Tohoku U.)

Tools - Carlo Carloni Calame (NExT Institute, Southampton U.)

Astroparticles - Denis Comelli (INFN Ferrara)

Top and QCD - Gennaro Corcella (LNF- Frascati)

Beyond the Standard Model - Aldo Deandrea (IPN, Lyon)

Electroweak physics - Giuseppe Degrossi (Roma III and INFN Roma III)  
and Massimo Passera (INFN Padova)

Vector boson fusion - Fulvio Piccinini (INFN Pavia)