



## LIGHTCONE 2013<sup>+</sup>

May 20-24, 2013 (registration on site Sunday, May 19, 2013, 18:00-23:00)

Satellite Meeting: Friday afternoon, May 24 and Saturday, May 25, 2013

“Skiathos Palace” Hotel, Island of Skiathos, Greece

<http://www.tp2.ruhr-uni-bochum.de/~lc2013/>

### THIRD CIRCULAR (May 03, 2013)

---

You are cordially invited to participate and present in the LC2013<sup>+</sup> workshop

#### “Venturing off the lightcone – local vs. global features”

under the auspices of the *International Light-cone Advisory Committee (ILCAC) Inc.*

This workshop is the 2013 edition of a series of prestigious conferences on lightcone physics. It will be organized by the Institute for Theoretical Physics II of the Ruhr University of Bochum, Germany and will be held at “Skiathos Palace” Hotel on the island of Skiathos, Greece, May 20-24, 2013. Registration on site is due on Sunday, May 19<sup>th</sup> 18:00 - 23:00h at “Skiathos Palace” Hotel.

Participation in the event is by *invitation only*.

The workshop will cover the following topics:

- Wilson lines off-the-lightcone
- Lightcone field theory
- AdS/CFT – theory and applications
- Hadron structure in QCD
- Effective theories
- Lattice simulations

The central theme in this workshop is the appearance of path dependence in various hadronic quantities when using Wilson lines. This subject has recently received particular attention in connection with transverse-momentum dependent parton distribution functions that may contain Wilson lines going off-the-lightcone. It is our purpose to provoke thought and collaborative work encouraging the cross-talk between scientists that use different concepts and calculational techniques – from theory to phenomenology.

The LC2013 workshop will have a satellite meeting attached to it, starting in the afternoon of Friday 24<sup>th</sup> of May and continuing during Saturday 25<sup>th</sup> of May. This meeting is devoted to questions pertaining to relations between the Bethe-Salpeter equation and Euclidean- and Minkowski-based approaches. It is mainly organized by B. L. G. Bakker, T. Frederico, and L. Tomio. There are no additional fees for this meeting, but also no reduction if one plans to attend only the meeting and skip the workshop.

### **Conference Program**

The preliminary program of the LC2013 Workshop and that of the Satellite Meeting are attached to this circular.

### **Registration**

- Registration online: <http://www.tp2.ruhr-uni-bochum.de/~lc2013/>
- Online registration is open until May 10, 2013

Workshop fee rates:

**Regular: 400 EURO**

**Reduced (student): 250 EURO**

**Accompanying person: 200 EURO**

### **Hotel Reservation**

Reservations have to be done **individually**. A list of hotels with special rates for LC2013+ participants is given in “Travel information” farther below. Some of the listed hotels are already overbooked.

### **Workshop Fees**

The registration fee of 400 EUR (250 EUR) covers participation in LC2013 plus Satellite Meeting and includes coffee breaks, 6 lunches, welcome party, banquet, cultural event, excursion, workshop poster, and publication of the proceedings.

**Accompanying persons** are welcome to participate in the evening social events. Their lunches are also covered by the fees. Please declare them upon registration adding 200 EUR to your fee for the social event costs including the excursion. Mrs. Annemarie Stefanis will likely be organizing sightseeing events for them.

### **Payment information**

Please, make your payment in EURO to the bank account of the conference (see below) and **indicate bank charges as OWN**. We are unable to cover bank charges due to legal legislation. Payment in cash during the registration on site will be allowed only in exceptional cases and only after previous notification and permission from the Local Organizing Committee. Please bring your personal proforma invoice(s) with you. If you have already paid but have not yet received a confirmation, please bring a hardcopy of your bank transfer. The system is new and it is not working perfectly. We apologize for any inconvenience.

**It is important to indicate the following details in your bank transfer as they APPEAR in your personal invoice(s). Do NOT use abbreviations of your name:**

Recipient: Ruhr Universitaet Bochum / TPII  
Account Number: 1498807  
IBAN Number: DE18 43050001 000 1498807  
BIC Code: WELADED1BOC  
Bank Name: Sparkasse Bochum  
**Reference: 475 703 0002 / your name / LC2013**

### **Proceedings**

We are planning to publish the proceedings of the workshop with Springer Verlag as a Special Issue of the journal Few Body Systems. However, we may decide to publish the proceedings in another journal. We will inform you about the proceedings later.

### **Visa**

Greece is a member of the European Union and of the Eurozone. Besides, Greece belongs to the Schengen area. Let us know whether you need a visa to enter Greece. You need a valid passport or ID card to enter Greece.

### **Location**

The island of Skiathos (Greek: Σκιάθος) belongs to the group of North Sporades and is located in the northwest Aegean Sea and east of the Pelion peninsula. Information about how to reach the island is given in “Travel information”. The workshop will take place at the “Skiathos Palace” Hotel close to the Koukounaries beach at the southwest part of the island (as marked on the map).



Skiathos Palace,  
Koukounaries beach



located here

**The Greek time is Eastern European Summer Time (EEST) +0300 UTC**  
**The Greek weather forecast can be found here**

<http://www.weather-forecast.com/locations/Skiathos-National-Airport/forecasts/latest>  
[http://www.meteo.gr/cf-En.asp?city\\_id=26](http://www.meteo.gr/cf-En.asp?city_id=26)

[http://www.yourweather.co.uk/weather\\_Skiathos+Island-Europe-Greece-Skiathos+Island-LGSK-1-11977.html](http://www.yourweather.co.uk/weather_Skiathos+Island-Europe-Greece-Skiathos+Island-LGSK-1-11977.html)

---

**TRAVEL INFORMATION (May 03, 2013)**

---

The Greek island of Skiathos is shown in the map below.



For the official site of the island visit <http://www.skiathos.gr/>

**Location (39°10'N 23°29'E)**

The island is about 12 km long and 6 km wide on average and has always been a traditional tourist destination. It became recently more popular after the release of the successful film *Mamma Mia* that was partially shot on Skiathos. Much of the island is wooded with pines and has over 60 sandy beaches scattered all around the 44 km coastline. There are three bus routes on the island, with the core route (red line) connecting the main town and port to Koukounaries beach along the south coast of the island and passing in front of the “Skiathos Palace” Hotel (bus stop 22 “Marathas”).

The fare is between 1.40 and 2.50 EUR. There is no need to buy a ticket beforehand; the conductor will ask you which stop you want. The blue line connects Skiathos city with the Ksanemos Beach and serves the airport as well. The bus stops of the red line are shown in the map below along the south coast line.



### **Transportation**

There is a regular airline connection to Athens throughout the year, while during the summer one can access Skiathos from all over the world by combining international and domestic flights through Athens International Airport “Elefterios Venizelos”. For more information, please follow the links:

<http://www.athensairport-2001.gr/>

<http://www.aia.gr/default.asp?langid=2>

Flights from Athens (ATH) to Skiathos (JSI) are available on [Olympic Air](#). Total distance: 133.05 km; flight time: approx. 1 hour

Information about the domestic flights from Athens to Skiathos can be found here

[https://b2c.olympicair.com/novaBooking/flightAvailabilityAction.do?fromDateDD=19&fromDateYYYYMM=201305&toDateDD=26&toDateYYYYMM=201305&singleTrip=false&from=ATH&to=JSI&adults=1&children=0&juniorChildren=0&infants=0&lan=en\\_GB](https://b2c.olympicair.com/novaBooking/flightAvailabilityAction.do?fromDateDD=19&fromDateYYYYMM=201305&toDateDD=26&toDateYYYYMM=201305&singleTrip=false&from=ATH&to=JSI&adults=1&children=0&juniorChildren=0&infants=0&lan=en_GB)

For the valid flight schedule please consult your travel agent.

There are also direct charter flights during the summer time from several European cities: Amsterdam, Berlin, Bucharest, Copenhagen, Düsseldorf, Frankfurt, London, Manchester, Milan, Munich, Göteborg, Oslo, Stavanger, Stockholm, Stuttgart, Trondheim, Vienna, Zurich, etc.

One can also fly to Thessalonica or to Volos. Please clarify these possibilities with your travel agent. The routes to Skiathos are explained below.

One can access Skiathos by High-Speed ferries from the ports of Volos (326 km northeast of Athens): 2<sup>1/2</sup>h; Agios Konstandinos (168 km northeast of Athens): 1<sup>1/2</sup>h; and Thessalonica (co-capital of Greece in the North): 6h. There are also ship connections to several Greek islands. A faster transport of passengers without cars is provided by hydrofoils which operate from the three main ports mentioned above.

### **Routes to Skiathos by public transportation**

#### **From Athens Airport**

From the “Elefterios Venizelos” Athens Airport to “Larissa” railway station use the AMEL Electric Railway Line 3 (blue line) to “Syntagma” and change there line to “Stathmos Larissis”. A valid ticket is required for all journeys on public transport in Athens. Tickets must be bought before the start of the journey. They are sold in kiosks (“periptero”) and in all Metro stations at the ticket office or at automatic vending machines. All tickets must be validated before the start of the journey. There are validation machines onboard buses, however train and Metro journey tickets must be validated using machines in the station - before reaching the platform. Buy a 1-day ticket that covers the whole trip within Athens.

Alternatively, one can take a taxi to the railway station at about 45-50 EUR. The distance is about 40 km. Take the IC train from Athens to Volos (Only the “IC direct” comes directly to Volos without a change of train in Larissa):

Departure from Athens	Arrival in Volos
06:50 IC	12:02
10:51 IC	15:39
13:21 IC	18:01
15:53 (IC direct)	20:25

Departure from Volos	Arrival in Athens
06:21 (IC direct)	11:15
07:04 IC express	11:39
10:39 IC	15:20
15:03 IC	19:49

#### **Tickets:**

IC express:	34.40€ one way/ 63.70€ return ticket
IC:	26.00€ one way/ 46.90€ return ticket
IC direct:	20.70€ one way/ 36.80€ return ticket
Regular:	12.80€ one way/ 20.50€ return ticket

After arriving in Volos take a taxi to the Tourist Port. Buy a ticket at a Ferry Boat ticket office **before you enter the port area**. There are several ferries to Skiathos daily. See for the timetable and reservations

<http://www.gtp.gr/RoutesResults.asp?SchDay=0&SchMonth=0&SchYear=2013&CompanyID=0,2&SortType=1,2&AroundDate=0&Origin=EGRMG20VOLVOL,13078,8&Destination=EGR4MG32,13181,6>

### **From Thessalonica Airport**

Take the bus Line 78 from the “Macedonia” International Airport to the New Railway Station (about 1 hour). The ticket costs 0.50 EUR if bought in advance, or 0.60 EUR if bought on board the bus. A taxi costs about 15-20 EUR.

### **From Volos Airport**

The “Nea Anchialos” National Airport is located 30 km south west of Volos near the town of Nea Anchialos. There is a bus connecting the airport and Volos Bus Terminal (“KTEA”). Buses are waiting to pick up travelers after a plane lands at a cost of 5 €. A taxi from the airport to the Bus Terminal costs about 25 EUR. The Bus timetable can be found here

[http://www.ktelvolou.gr/dromologia\\_air\\_xeim.html](http://www.ktelvolou.gr/dromologia_air_xeim.html)

### **How to reach Skiathos by car**

One can rent a car at Athens Airport and drive to Skiathos using the highway E75. You follow E75 towards Lamia and then towards Larissa. You leave the motorway at the Velestino junction towards Volos. Coming from Thessalonica, drive first on E75 towards Larissa and then towards Lamia. Leave the motorway at the Velestino junction. For a map, see <http://www.rome2rio.com/s/Athens-International-Airport-ATH-Attiki-Odos-Spata-Artemida-190-04-Greece/Volos>

It is also possible to arrange for a taxi transfer with driver from Athens to Volos – ask your travel agent or visit, for instance,

[https://taxido.net/taxi-transfers-Athens\\_Airport-to-Volos-145751-248605.html](https://taxido.net/taxi-transfers-Athens_Airport-to-Volos-145751-248605.html)

Similar service is also provided from Thessalonica Airport to Volos.

### **Taxi service in Skiathos**

The Skiathos Taxi Union operates 24h per day (Tel: 0030 24270 24461). The fare from Skiathos town (Port) – “Skiathos Palace” (close to bus stop 22) is 16 EUR. To or from the Airport to any destination an extra charge of 2.30 EUR has to be added. These prices may vary considerably. Ask the taxi driver about the fare before you enter.

### **Climate**

Skiathos is rather cold in the winter, but has a pleasant climate during the summer with 10 hours of sunshine every day and no rainfall during the summer months. The water is warm from July to September but colder in May and June.

### **Average Temperatures in Celsius (°C)**

	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
Air	10.0	13.9	18.5	22.8	24.9	24.8	21.0	16.6	13.0

### **Hotel Accommodation**

Accommodation in hotels has to be arranged **individually**. Room reservations at “Skiathos Palace” Hotel can be done at special prices for LC2013+ participants for all types of rooms, starting at 83.50 EUR for single occupancy and 93.50 EUR for double occupancy. All rates include American style breakfast buffet and state taxes and service charges. Several other hotels on the island listed below will also provide rooms at special rates. Many of these hotels offer free transportation from and to the airport. Clarify this issue with the hotel of your choice.



Please let us know your arrival and departure dates and the hotels where you have booked your accommodation in order to be able to assist you.

**List of Hotels providing special rates to the participants of LC2013**

The following hotels are offering rooms for the attendants of LC2013 at special rates as indicated below.

To get a discount, please use for booking the following code: **LC2013RUB**. (\* only capital letters \*)

**Skiathos Palace\*\*\*\*** – Conference site (area Koukounaries, **Bus-stop 22** ``Marathas’’), Classic Double Room 93,50 EUR; Modern Room 119 EUR. Double room for Single Room use minus 10 EUR. These prices include breakfast and all taxes. Recommended for spectacular view on the Aegean Sea, environment, and facilities.

<http://www.skiathos-palace.gr>

**Troulos Bay Hotel** (area Troulos, **Bus-stop 20**). Double Room 50 EUR for two persons including breakfast and taxes. Recommended for sea activities. Close to the beach.

<http://www.troulosbayhotel.gr>

**Skiathos Premier Hotel\*\*\*\*** (area Troulos, **Bus-stop 18**) . Superior Suite with kitchen for two persons 85 EUR + breakfast 5-8 EUR per person. Single-person occupation 75 EUR + breakfast 5-8 EUR. Superior Suite with kitchen for three persons 110 EUR + breakfast 5-8 EUR per person. These prices include all taxes. Recommended for location and facilities. Ideal for families.

<http://www.skiathosprincess.com/>

**Atrium Hotel\*\*\*\*** (area Agia Paraskevi, **Bus-stop 16**). Double Room with sea view 84 EUR; Junior Suite/Family Room – sea view 119 EUR. Double room for Single Room use: minus 15 EUR. These prices include breakfast and all taxes. Recommended for unique atmosphere and spectacular view on the Aegean Sea.

<http://www.atriumhotel.gr/>

**Magic Hotel\*\*\*\*** (area Agia Paraskevi, **Bus-stop 16**). Superior Double Room 50 EUR (2 persons); Family Room (4 persons) 80 EUR; Executive Suite (2 persons) 95 EUR. These prices include breakfast and all taxes. Recommended for good atmosphere and nice view on the Aegean Sea.

<http://www.magic-hotel.com/>

**Kanapitsa Mare\*\*\*\*** (area Kanapitsa, **Bus-stop 12**). Standard Double Room with sea view 55 EUR; Junior Suite 115 EUR. These prices include breakfast and all taxes. Recommended for scuba diving and hiking activities. Good atmosphere and nice sea view.

<http://www.kanapitsa.com/>

**Belvedere Hotel\*\*\*\*** (area Achladies, **Bus-stop 10**). Double Room with sea view 35 EUR per person. The price includes breakfast and all taxes. Recommended for hiking activities.

<http://www.belvedere-skiathos.gr>

**Maniatis Garden, Rooms to let** (area Achladies, **Bus-stop 10**). Double Room 50 EUR for two persons including breakfast and taxes. Single Room use 40 EUR. Recommended for



those who want to be closest to the beach and enjoy peacefulness in a nice atmosphere. Restaurant and coffee bar with friendly prices. Daily boat connection to the port for 2.50 EUR from 8:30-22:00 in front of the hotel super market.

<http://www.maniatisgarden.gr>

**Kassandra Bay Hotel\*\*\*\*\*** (area Vasiliás, **Bus-stop 8**), Double Room with sea view 90 EUR; Junior Suite 110 EUR. These prices include breakfast and all taxes. Recommended for high-class environment and facilities. Close to the beach.

<http://www.kassandrabay.com/>

**La Piscine Art Hotel\*\*\*\*\*** (Skiathos town, **Bus-stops 3, 4**). Single room 70 EUR; double room 80 EUR. These prices include breakfast and all taxes. Recommended for nightlife, scuba diving, excursions, shopping, etc.

<http://www.lapiscinepalace.gr/en/index.html>

All mentioned hotels are close to the main road (“red bus line”) shown in the map above and can be reached with Bus line 2. Besides, there will be a conference bus service every morning starting in Skiathos town Bus-stop 4 to “Skiathos Palace” with several stops close to the hotels in-between.

You are not obliged to book in one of the above hotels. You can find the accommodation of your choice using, for instance,

<http://www.booking.com/> or <http://www.hrs.de/>

Best regards,  
Nico G. Stefanis

### **Local Organizing Committee**

Nico G. Stefanis (Chair)

Evgeny Epelbaum

Hermann Krebs

Maxim V. Polyakov

Martina Hacke (secretary)

Peter Druck (administrator)

(Bochum)

Alekos I. Karanikas

(Athens)

Phone: +49-234-3223724 (Stefanis)  
-3223707 (secretary)

Fax: +49-234-3214967

Email: [lc2013@tp2.ruhr-uni-bochum.de](mailto:lc2013@tp2.ruhr-uni-bochum.de)

[N.G.Stefanis@tp2.ruhr-uni-bochum.de](mailto:N.G.Stefanis@tp2.ruhr-uni-bochum.de)

### **Mailing address**

Dr. Dr. Nico G. Stefanis

Theoretical Physics II, NB6/134

Ruhr University Bochum

D-44780 Bochum, Germany

# Lightcone 2013<sup>+</sup>, Skiathos, May 20-24+25

<http://www.tp2.rub.de/~lc2013>

	Monday 20	Tuesday 21	Wednesday 22	Thursday 23	Friday 24	Saturday 25
<b>Time</b>	QCD Phenomenology	LC field theory	Ab Initio	TMD Theory	Partons, hadrons	Satellite Meeting
8:45-9:00	<b>Opening</b>					
9:00-9:40	(1.1) Liuti	(3.5) Vary	(5.1) Hiller	(6.1) Mulders	(8.1) Burkardt	
9:40-10:20	(1.2) Pasquini	(3.6) Ilderton	(5.2) Bakker	(6.2) Brambilla	(8.2) Plessas	
10:20-11:00	(2.1) Moutarde	(3.7) Ji	(5.3) Glazek	(6.3) Vairo	(8.3) Tandy	
11:00-11:30	<b>Coffee</b>	<b>Coffee</b>	<b>Coffee</b>	<b>Coffee</b>	<b>Coffee</b>	<b>Coffee</b>
11:30-12:00	(2.2) Mikhailov	(3.8) Zhao	(5.4) Chabysheva	(6.4) Den Dunnen	(8.4) Frederico	
12:00-12:30	(2.3) Semenov-Tian-Shansky	(3.9) Karmanov	(5.5) Polyzou	(6.5) Cherednikov	(3.12) Melnitchouk	
12:30-13:00	(2.4) Broniowski	(3.10) De Melo	(5.7) Martinovic	(6.6) Vladimirov	<b>Closing</b>	
13:00-14:30	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>
	LC Field Theory	AdS/CFT	<b>EXCURSION</b>	PDFs, GPDs	Satellite Meeting	
14:30-15:00	(3.1) Mathiot	(3.11) Choi		(7.1) Pimikov		
15:00-15:30	(3.2) Przeszowski	(4.1) Lyubovitskij		(7.2) Moiseeva		
15:30-16:15	<b>Special Lecture TMDs</b>	<b>Special Lecture AdS/QCD</b>		<b>Special Lecture GPDs</b>		
	(1.3) Efremov	(4.2) Brodsky	(7.3) Müller			
16:15-16:45	<b>Coffee</b>	<b>Coffee</b>		<b>Coffee</b>	<b>Coffee</b>	<b>Coffee</b>
16:45-17:15	(3.3) Torgrimsson	(4.3) Vega		<b>Free time</b>		
17:15-17:45	(3.4) More	(4.4) Trawinski				
19:30		<b>ILCAC Meeting</b>	<b>Banquet</b>	<b>Cultural event</b>		<b>Closing</b>

- |                      |                     |
|----------------------|---------------------|
| 1) TMD Phenomenology | 5) Ab Initio        |
| 2) QCD Phenomenology | 6) TMD Theory       |
| 3) LC field theory   | 7) PDFs, GPDs       |
| 4) AdS/CFT           | 8) Partons, hadrons |

## **Satellite Meeting**

### **(9) Topic: Relation of observables calculated on the lattice with results obtained with other approaches**

- (9.1) 14:30 - 15:10 Key talk **Jaume Carbonell**
- (9.2) 15:10 - 15:30 Referent **Maxim Polyakov**
- (9.3) 15:30 - 16:15 General discussion

### **(10) Topic: Effective Field Theory**

- (10.1) 16:45 - 17:25 Key talk **Hermann Krebs**
- (10.2) 17:25 - 17:45 General discussion

### **(11) Topic: The present status of the Bethe-Salpeter/Dyson-Schwinger approach to QCD.**

- (11.1) 9:00 - 9:40 Key talk **Peter Tandy**
- (11.2) 9:40 - 10:00 Referent **Adnan Bashir (TBC)**
- (11.3) 10:00 - 10:40 General discussion
- (11.4) 10:40 - 11:00 Plessas

### **(12) Topic: The present status of the Bethe-Salpeter approach in Minkowski space**

- (12.1) 11:30 - 12:10 Key talk **Vladimir Karmanov**
- (12.2) 12:10 - 12:30 General discussion

### **(13) Topic: Euclidean and Minkowskian QCD quantities calculated in analytic QCD frameworks**

- (13.1) 14:30 - 15:10 Key talk **Gorazd Cvetič**
- (13.2) 15:10 - 15:30 Referent **Wayne Polyzou**
- (13.3) 15:30 - 16:15 General discussion

### **(14) Topic: Closing remarks**

- (14.1) 16:45 **James Vary**  
*“The present status of the Bethe-Salpeter approach in Minkowski space”*