

Bid to hold GR20
at
University of Warsaw
July 8 – 12, 2013



The University Gate; inside: the conference venue



The Old Library Building, the conference venue

Fifty years ago in Warsaw...
Conférence internationale sur les théorie relativistes
de la gravitation – Warszawa, July 25-31, 1962



During J.L. Synge's lecture. In the first row, left to right: L. Infeld, V.A. Fock, J.L. Anderson, E. Newman, R. Penrose, and B. Hoffmann. Far right R. Michalska-Trautman.



P.A.M. Dirac and R.P. Feynman

Introduction

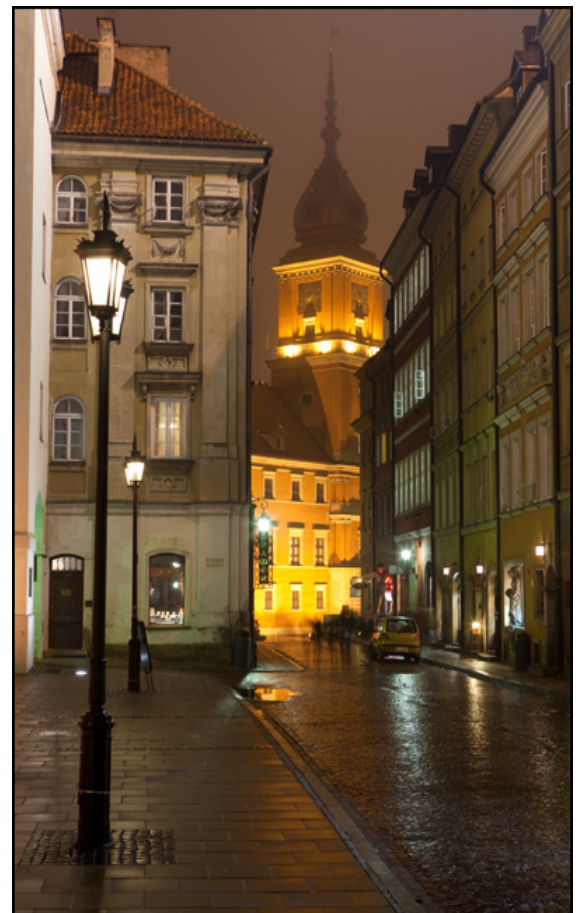
We propose to organize GR20 to be hosted at the Main Campus of the University of Warsaw in Warsaw, the capital of Poland, during the period of July 8-12, 2013.



Krakowskie Przedmieście street, the neighbourhood of the conference venue

The University of Warsaw was established in 1816. The prestigious, historical **Main Campus** of the University is located in the tourist center of Warsaw, by the Royal Route. It is within walking distance of the Old Town and King's Castle, the main tourist attractions.

The campus itself is worth visiting. All buildings of the Main Campus have been renovated and modernized but they have not lost their original charm. Kazimierzowski Palace and the Former Rectory Buildings welcome visitors as they welcomed Fryderyk Chopin, who lived there from 1817 to 1827. Nowadays the University of Warsaw is Poland's largest and best university. It offers 80 fields of study and educates over 65 thousand students. The international reputation of the University of Warsaw is demonstrated by its regular cooperation with the most renowned educational institutions in a host of foreign countries. In 2007 the University of Warsaw was chosen by the European Commission from among 2500 higher education institutions as one of the 20 best success stories for the Erasmus programme in 2000-2006.



Unsurprisingly, the University, with its prestigious location, and its combination of traditional and modern auditoriums and conference rooms, hosts many international conferences every year. These include events organized by the University's faculties and those organized by our partner institutions.

At the end of June, classes are finished and most students have left the campus for the summer. In the proposed period of 8-12 July, 2013, all the Main Campus will be at the disposal of the participants and organizers of GR20.

University of Warsaw will cover all the cost of using the conference meeting rooms.

Meeting rooms and other public facilities

The lecture hall buildings where the GR20 would be held are the two largest ones located next to each other in the middle of the campus:

Auditorium Maximum, the building with the largest lecture hall, charms with its exceptionally beautiful Ionic capitals.

The Old Library Building, located in the heart of the campus, has been remodeled and turned into a conference center. It links tradition with modernity.

The buildings are adjusted to meet the needs of people using wheelchairs and are well-equipped with multimedia devices. They create a unique atmosphere and serve as a great place to organize conferences, seminars and other events. All services, including WI-FI, multimedia, a computer room with 24 workstations, translation devices, catering, parking etc. are available and at your service. The professional and dedicated technical support team responds to every request and will assist event organizers at any time.



Auditorium Maximum, the conference venue



A lecture hall in The Old Library Building (the lecture of Roger Penrose)



Mickiewicz Hall in Auditorium Maximumum (the meeting with Angela Merkel)



Mickiewicz Hall in Auditorium Maximum, you can see the balcony



A lecture hall in The Old Library Building



A lecture room in The Old Library Building

More detailed information about the lecture halls and rooms is contained in the table below. All of the rooms and both entire buildings are reserved exclusively for GR20 during the period of 8–12 July, 2013, from 8:00 to 20:00, and all costs, including technical support, will be covered by the University of Warsaw:

The lecture halls and rooms

Building	Lecture hall	Number of seats
Auditorium Maximum	Mickiewicz Hall	1000
Auditorium Maximum	room A	180
Auditorium Maximum	room B	180
Auditorium Maximum	room C	180
Auditorium Maximum	room D	180
The Old Library Building	Auditorium	376
The Old Library Building	room 105	72
The Old Library Building	room 106	72
The Old Library Building	room 107	72
The Old Library Building	room 108	12
The Old Library Building	room 109	12
The Old Library Building	room 111-113	132
The Old Library Building	room 114-116	132
The Old Library Building	room 205	72
The Old Library Building	room 207	72
The Old Library Building	room 211-213	132
The Old Library Building	room 214-216	132
The Old Library Building	room 308	60

The main hall for plenary lectures will be Mickiewicz Hall. Its maximum capacity is 860 permanent seats plus 140 portable seats that can be fixed on request, therefore the estimated 600 participants (or even 800 in case the number rises) can be accommodated comfortably. The hall has good acoustics, good visibility of the speaker and the three projection screens (on request, there is possibility of installing 2 side screens), and easy access to the seats, including access for wheelchair users and others with limited mobility. It is equipped with equipment for video feed from computers, two overhead projectors and a good public address system for sound: video, film, and slide projection equipment are available if speakers request it. An extra projector for announcements is possible. The technical support as well as several well trained PhD students will be on hand, so that if the equipment fails, we will be able to resume without significant delay. Apart from the large morning lecture hall, there is a wide range of seminar and lecture rooms for workshops: there is 1 large room of capacity 376 seats, 4 rooms of 180 seats each, 4 of 132 seats each, 5 rooms of capacity 72 seats each, and one room of capacity 60 seats. The lecture rooms are equipped in a similar way to the morning session lecture room described above. Since the expected number of simultaneous workshop sessions is 6, there will be a huge surplus of space that can be used in another way. Also note that these rooms are close to one another, with good circulation, so that delegates can, without problems, attend talks in different sessions. All the lecture halls and rooms will be available from 8:00 (8 AM) till 20:00 (8 PM) every day.

It will be possible to take the opportunity to stage public lectures by prominent scientists in the field, to promote public understanding of science. The plenary hall will normally be available until 20:00 (8 PM) however on our request one evening we can hold it one or two hours longer.

The conference areas are provided with good and prominent notice boards which can be used for announcements about the meeting and social events, and for individual delegates to contact one another.

In addition several smaller meetings can be easily housed. In particular the main ones, that is the GRG Society committee meetings, but there may also be editorial board meetings of journals etc. The outstanding lecture rooms will be available for that purpose, as well as several meeting rooms used for the university faculty meetings.

The conference halls in Auditorium Maximum and in The Old Library Building have good open lobby spaces which are usually used for refreshments, poster sessions, exhibitions of books and journals, etc. They are easy to access during the meeting, and located such that they are readily seen and dropped into by delegates, but also secure so that for example exhibits are not stolen. There is also space for posters sufficient to display at least 200 posters with good circulation.

The space for refreshments (tea, coffee, cold drinks and some biscuits or small cakes, morning and afternoon) is also near the meeting rooms, and has good circulation. Participants of conferences have possibility to use this time to make personal contacts. There is adequate space to walk around when you look for somebody. Comfortable seating is available. Often, the refreshments service is extended for some time before and after the official break in the program to relieve the pressure on time during the break by allowing those who miss the one or the other session to be served outside the official break period, and to promote the informal and friendly side of the meeting. In addition, at times other than the official break a cafe/bar is open for delegates to purchase further refreshments, throughout the meeting.

Service at coffee breaks in the cafe is usually provided by one of the two catering companies which have agreements with the university. They have experience in particular in very rapid service so that delegates do not have to waste large parts of the limited time by standing in line for coffee. Of course there usually are multiple coffee stations so that non-intersecting lines can be served at once, and efficiently.

Delegates have access to computing facilities with a fast connection to the Internet, so that they can connect to their home machines and read email etc. A wireless network as well as 24 workstations are available. That service is usually available also outside the main meeting hours, and has sufficient capacity to cope with the demand. Instructions are supplied on how to reset local machines or specify settings. Technical support to help with any difficulty in getting connected to the network will be provided.

Accommodation

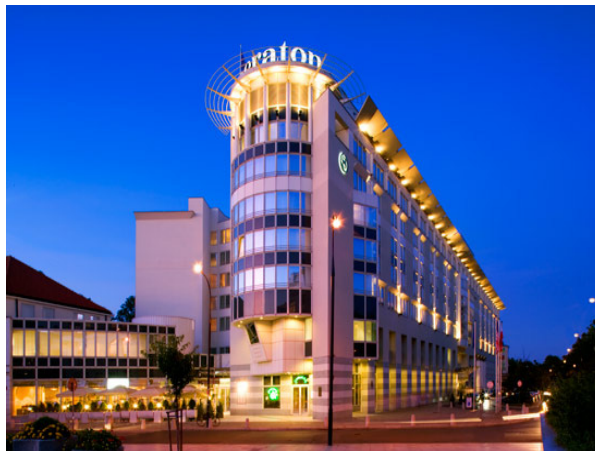
Warsaw and the University of Warsaw offer a wide range of accommodation. In the neighborhood of the Main Campus (and the conference lecture halls), there are numerous economy class hotels (*Harena* 2 minute walk, *Gromada* 5 minute walk, *Ibis* 20 minute walk or 5 minutes by bus), including the university hotels (*Hera* 6 bus stops or a pleasant 30 minute walk), as well as many luxury hotels (*Sofitel Warsaw Victoria* 3 minute walk, *Le Méridien Bristol* 3 minute walk, *Sheraton* 15 minute walk or 4 minutes by bus). Therefore a sufficient set of hotels is available in all categories, within 2–30 minutes' walking distance from the conference lecture halls.



Le Méridien Bristol Hotel



Harena Hotel



Sheraton Hotel



Ibis Hotel



Gromada Hotel



Sofitel Victoria Hotel

Additionally, all the walks from the hotels to the Main Campus are very pleasant. The surrounding area is particularly nice—the nicest part of the city—and is often visited by tourists, families and anyone who has free time to spend in Warsaw.



The walk from the conference venue to Ibis hotel

Since the conference will take place during summer holidays, the university student residences will also be available: we expect 200 beds, or more if necessary, to be available for participants of the conference at the price of 10€ per person. The University Guest Houses, Hera and Sokrates, offer 50 rooms for about 20€ per person. The student housing and Sokrates guest house are located further away from the Main Campus, about 30 minutes by public transport. We would like to emphasize however, that the public transport in Warsaw is well organized, operates according to timetables available on the internet, is frequent and reliable, and is not crowded at all during the summer. In particular, in the conference area 10 buses stop every 10 minutes from 5:00 (5AM) till 23:00 (11PM). There are also night buses every 30 min. A 7-day ticket allowing the use of all public buses (including night ones), tramways, the metro and local trains (within the boundary of the city) costs about 12€. Students of foreign universities are entitled to 50% fare reduction up to their 26th birthday, upon presentation of a valid International Student Identity Card.

Meals

Two catering companies have a contract with the university to provide meals for students during term time and for participants of university conferences. Term ends on June 30, just before the planned start of GR20. We will reserve a sufficiently large hall and use it to extend the lunch area. There are also very many small and large restaurants around the University where students and employees eat lunch during the terms. During vacation time they are also very convenient and the service is efficient. Therefore, upon registration, we can offer every participant a choice between the conference lunch and the restaurants. Prices for lunch in Warsaw range from 3€ to 7€.



The restaurants at the Old Town Square

The local restaurants close to the meeting place offer a wide variety of food for evening meals. Typical food in Polish restaurants is prepared according to a north European cuisine, however Polish traditional dishes (pierogi, bigos) are also available. In the university area there is also wide range of restaurants serving Balkan, Italian, Middle Eastern or Asian food. Some of the local organizers are vegetarians and others are familiar with special diets, therefore we are able to understand participants' varying dietary needs. We will include a suitable question about food preferences in the registration forms. Prices for dinner in Warsaw range from 6€ to 20€.

There are several possible locations for a participants banquet. One of the typical places for a 600 or more participants is King's Castle, where the price is about 50€ per person.

Registration and reception

The organizers will ensure complete attention and support to participants at the earliest stage of registration. The professional conference web-site will be updated frequently, providing an easy registration page and many on-line payment methods as well as all pertinent information: including maps, link to bus schedules, list and price range of hotels etc. In addition all essential information will be sent in advance to participants.

Fast and efficient service will be provided so that delegates trying to pack as much scientific contact as possible into the meeting do not waste time in queues. Registration will be open long hours to cope with the variety of arrival times. The layout will be such as to enable large numbers to be processed quickly. Delegates will be well-informed about how, when and where to find the registration when they receive information about the meeting in the mail. They will also be provided local map, travel instructions, and details of their accommodation in advance.

To avoid long waits, registration will be broken down into separate lines by alphabet. There will be separate lines for people with prepaid simple registration and for those who still have to pay, make changes, receive reimbursements, etc. There will be large signs posted high up, so that people can see which lines correspond to what from far back in the room.

In addition to the initial registration, there will be a reception desk for any late arrivals and for people needing information and assistance. This will be close to the meeting rooms and will be staffed continuously for somewhat longer than the actual meeting hours, though the busiest period will no doubt be in the breaks. The same area will offer a travel service provided by a university travel agency, so that delegates can arrange air, rail or other travel.

Other facilities

Payment facilities will be arranged to be as easy as possible for delegates. We will be able to accept payment by bank transfer, credit or debit card, cash (in local and main international currencies), made online or personally. A bank and exchange facilities are located very close to the conference venue.

There is a gym available at the campus and very good running areas along the Wisła river (the campus is about 20m above the river bank) and in the surrounding parks. Maps showing a few measured running routes and/or parks in the neighborhood of the hotels will be provided. It is also possible to attend concerts, the opera, the theater, the cinema and other cultural events. Medical care for any emergency (major or minor) is available at all times. An out-patient clinic is at the campus and there are hospitals in the neighborhood.

Participants who have national insurance in any of the European countries are served for free; others will need tourist insurance.

Travel

Poland is in the Schengen zone. Delegates from Europe, North and South America, Australia and New Zealand do not need a visa to enter Poland. Citizens from other countries can get a Polish visa any time they apply. Warsaw has easy and frequent local and international travel connections. There are direct flights to most of the European cities, to New York, Chicago, Montreal, and Toronto. Most of the European airports are within 1-3 hour flight: when flying with one change one can get to Warsaw from every country in the world. The Main Campus of the University of Warsaw is a 30 minute drive from the International Airport and a 10 minute drive from the Central Railway Station.

Clear and comprehensive travel instructions will be provided to all the participants in advance as well as information about contacting the organizers quickly in case of emergency. On the arrival day at the airport, several organizers will form an information/reception point available for the coming delegates.



Arrivals at Chopin Airport in Warsaw

Cost and Budget

The conference center will be provided for free by University of Warsaw.

If GRG approves that policy, we propose no conference fees for every junior participant member (or recommended by a member) of GRG Society. We will also try to get sufficient funds to propose zero conference fee for every (junior or senior) member of GRG Society. In case this is not possible, we are assuming that the conference fee for senior participants will be 180€ (alternatively, 150€ and about 40€ from junior participants).

Local costs paid for by participants:

Economic student/postdoc cost ranges between:

- **210€ = 0€** (conference fee) + **10€** (student residences)×6 days + **25€** (food)×6 days,
- **270€ = 0€** (conference fee) + **20€** (university guest house)×6 days + **25€** (food)×6 days.

Comfortable senior participant cost ranges between:

- **690€ = 180€** (conference fee) + **60€** (hotel) × 6 days + **25€** (food) × 6 days,
- **1 230€ = 180€** (conference fee) + **150€** (hotel) × 6 days + **25€** (food) × 6 days.

Data we are assuming:

- **600** participants
- **350** will pay the conference fee
- **33** plenary speakers + session chairmen + VIP
- **5** days of the meeting
- **180€** conference fee

Changing the data from 600 participants to 800 participants is not a problem.

Total income assessed:

- | | |
|-------------------------------------------------------------------------|-----------------|
| • Conference fee: 350 senior participants × 180€: | 63 000€ |
| • Lunch fee (not obligatory, offered upon registration): 600 × 5 × 4€: | 12 000€ |
| • Support from GRG Society: | 10 000€ |
| • Support from IUPAP: | 15 000€ |
| • Exhibition income (expected according to GR17): | 10 000€ |
| • Total income: | 110 000€ |

The conference expenditure:

- Accommodation and travel of VIP persons (plenary speakers, chairmen) including:
 - 15 speakers:
 - travel reimbursement: **20 500€**
 - hotel accommodation: **13 500€**
 - allowance: **2 500€**

- 14 Parallel Session Chairs, President, Depute President, Secretary of the GRG Society, Chair of the SOC:
 - hotel accommodation: 16 500€
 - allowance: 3 000€
- Refreshments during breaks: $2€ \times 2 \text{ breaks} \times 5 \text{ days} \times 600 \text{ participants}$: 12 000€
- Lunch: $4€ \times 5 \text{ days} \times 600 \text{ participants}$: 12 000€
- Delegate pack (including abstracts book, conference information, maps): 10 000€
- Local administrative costs (including administrative and technical assistance, printing, photocopying, telephone, fax, etc.): 5 000€
- Support for scientists from developing countries: 15 000€
- **Total expenditure:** **110 000€**

Remarks

We expect to collect considerably more money because we will apply for support to: Polish Ministry of Education, Polish Academy of Sciences, European Science Foundation, other EU organizations, Foundation for Polish Science, President of Warsaw. We will use it to lower the conference fee and reimburse more delegates who need support. The costs of travel and accommodation are overestimated, the allowance is slightly underestimated.

Local Organization

The conference will be organized by:

- ***Department of General Relativity and Gravitation at Faculty of Physics of University of Warsaw:***
 - Jerzy Lewandowski - ***Chair***
 - Marek Demiański, Wojciech Kopczyński, Paweł Nurowski, Andrzej Okołów, Adam Szereszewski, Jacek Tafel, Andrzej Trautman - *Faculty members*
 - Marcin Domagała, Michał Dziendzikowski, Ewa Infeld, Małgorzata Jakimowicz, Wojciech Kamiński, Marcin Kaźmierczak, Ryszard KostECKI, Jacek Puchta, Marcin Kisielowski - *PhD students*
- ***the senior relativists from other Polish institutions:***
 - Piotr Bizoń, Michał Heller, Jerzy Jurkiewicz, Edward Malec, Lech Sokołowski - *Uniwersytet Jagielloński*
 - Jerzy Kowalski-Glikman, Jerzy Lukierski - *Uniwersytet Wrocławski*
 - Piotr Jaranowski (*Uniwersytet w Białymstoku*), Jacek Jezierski (*Uniwersytet Warszawski*) Jerzy Kijowski (*Centrum Fizyki Teoretycznej PAN*), Andrzej Krasiński (*Centrum Astronomiczne M. Kopernika PAN*), Andrzej Królak (*Instytut Matematyki PAN*), Marek Rogatko (*Uniwersytet Marii Curie-Skłodowskiej*)

The honorary member of LOC will be Katarzyna Chałasińska-Macukow – The Rector of University of Warsaw. We will also ask the Ministry of Education for honorary patronage of the conference. The proposed Chairman of LOC is Jerzy Lewandowski.

Jerzy Lewandowski's experience:

Locally organized conferences:

- 4 Workshops in Stefan Banach International Mathematical Center, Warsaw, Poland
- 2 Workshops in Zakopane, Poland
- 1 School in Zakopane, Poland
- many new events before 2013

Numerous scientifically (co)organized conferences, among them:

- 2 sessions of the GR conferences
- 2 sessions of the MG meetings

Accompanying schools (June 24 – July 6, 2013)

We are planning to organize accompanying schools to give background to the possible youngest participants. In particular:

- **Non-perturbative models of quantum gravity**
organizers: *Michał Heller, Jerzy Jurkiewicz, Jerzy Kowalski-Glikman, Jerzy Lewandowski*
- **Mathematical relativity: a gentle guide to the forefront of current research**
organizers: *Piotr Bizoń, Edward Malec*
- **Analysis of gravitational-wave data: formalism and sample applications**
organizer: *Piotr Jaranowski*