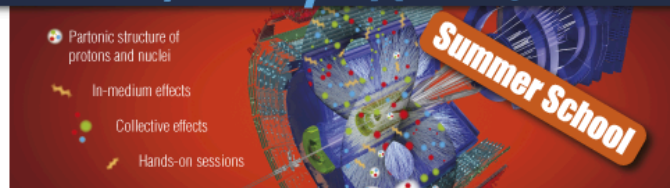


From Hadronic Structure to Heavy Ion Collisions

June 9-15th, 2024 IJCLab, Orsay (PARIS Region), France



<https://indico.in2p3.fr/event/31210/>

SECOND CIRCULAR

The summer school "From hadronic structure to heavy-ion collisions" will take place from **June 9 to June 15 at IJCLab in Orsay, close to Paris (France)**. The school welcomes PhD students and young researchers in the fields of QCD, hadron and/or heavy-ion physics, both experimentalists and theorists. The school will be held the week after the SQM 2024 conference which is taking place in Strasbourg (France), 2 hours from central Paris by train.

The school will provide the participants the tools to navigate from the multidimensional structure of the nucleon (quantum chromodynamics, modifications in nuclei and parton saturation) to the properties and influence of the hot and dense QCD medium created in heavy-ion collisions (HIC). The formation of the quark-gluon plasma (QGP), its thermodynamic properties and the phase transition to hadronic matter will be discussed. The origin and observation of collective effects will also be discussed. Attention will be paid to the interplay between theory, phenomenology and experiment, and interdisciplinary links to nuclear structure physics.

Internationally recognized researchers will give introductory lectures on hydrodynamics, nucleon and nuclear structure, probes of the QGP such as jets and heavy flavors both from theory and experiment, the simulation of HIC via event generators, the modification of hadrons in the medium and the initial state of a HIC. The lecturers having confirmed their participation are: C. Andrés, N. Armesto, K. Gajdosova, P.-B. Gossiaux, C. van Hulse, J.-Y. Ollitrault, M. Verweij, J. Wang and K. Werner.

Preliminary agenda: [link to the on-line agenda in indico](#)

	Monday June 10th	Tuesday June 11th	Wednesday June 12th	Thursday June 13th	Friday June 14th
8:00					
8:30	Registration & breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00	Hydrodynamics, Theo	Hydrodynamics, Theo	Partonic struc & small x Theo	Partonic struc & small x Theo	Partonic struc & small x Theo
10:00	Hadrons, focus on flow Exp	Hadrons, focus on flow Exp	Partonic struc & small x Exp	Partonic struc & small x Exp	Partonic struc & small x Exp
11:00	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
11:30	HQ and quarkonia Theo	HQ and quarkonia Exp	Partons in medium Theo	Partons in medium Theo	Monte Carlo tools
12:30	Lunch	Lunch	Lunch	Lunch	Lunch
14:30	HQ and quarkonia Theo	HQ and quarkonia Exp	Jets in medium Exp	Jets in medium Exp	Monte Carlo tools
15:30	Discussion	Discussion	Discussion	Discussion	Discussion
16:30		Poster session & Cocktail	Poster session & Cocktail	Visit Sciences-ACO (1st group)	
17:30		Poster session & Cocktail	Poster session & Cocktail	Visit Sciences-ACO (2nd group)	
18:30	Welcome cocktail				
19:30		Dinner	Dinner	School Dinner	Dinner

Poster sessions:

There will be 2 poster sessions, on **Tuesday** and on **Wednesday** afternoon.

Each participant is asked to prepare, print and bring a poster presenting his/her research activity.

****** Each participant should provide the title of his/her poster filling in the [associated indico page](#) "Call for posters", before May 30th. An abstract could also be provided (optional).**

Specific instructions for posters:

- The dimensions of the poster should be no larger than an A0 format: **84,1 cm (width) x 118,9 cm (height) - portrait mode.**
- The text, illustrations, etc. should be bold enough to be read clearly from a distance of 2 meters (6 ft.).
- Poster board and push pins will be provided for mounting posters.
- **Please note that there will be no possibility to print posters on-site, all posters have to be printed.**

Venue:

The accommodation (for hosted participants/lecturers, Residhome Bures La Guyonnerie, and IJCLab are both located in the south suburb of Paris along the **RER** (regional train) **B line**. It takes ~40' from Central Paris, ~1h30' from CDG airport and ~40' from ORY airport. The station to get to the Residhome is "Bures-sur-Yvette", whereas the station for IJCLab is "Orsay-ville".

A map of the regional public transportation can be found [here](#). RER B: blue thick line from the East North part (terminus CDG airport) to the West South part (heading to station "Saint Rémy-Lès-Chevreuse").

- From Paris "Roissy Charles de Gaulle" (CDG) airport

- **Terminal 1:** follow the sign "Paris by train" **CDGVAL**, a free automatic train shuttle, which takes you to Roissypôle/RER B station in ~ 4 minutes (second stop)
- **Terminal 2:** follow the sign "Paris by train" **RER B**. RER B trains are directly accessible from terminal 2.

Please note that prior to accessing a RER B train, you have to buy a ticket from automatic machines (recommended, payment by debit/credit card) or at a desk (much longer). Fares depend on the final destination. It will cost you ~17 € to reach **Bures-sur-Yvette** RER station (one way). Please make sure to take a train heading to Saint-Rémy-Lès-Chevreuse (avoid trains which end at Robinson, Massy, Orsay-ville). Stop at "Bures-sur-Yvette" station.

- From Paris Orly (ORY) airport:

Follow the sign "Paris by train" **ORLYVAL** The ORLYVAL is an automatic train from terminal 4 and terminal 1 heading to Antony, where there is a connection with **RER B**. ORLYVAL is NOT free. Prior to boarding the train you have to buy a ticket at an automatic machine (payment by debit/credit card) or at the desk. Indicate your final destination. For Bures-sur-Yvette RER station, it costs 15,30 € (one way). From Orly terminal 4, ORLYVAL is reaching Antony RER B station in ~8 minutes.

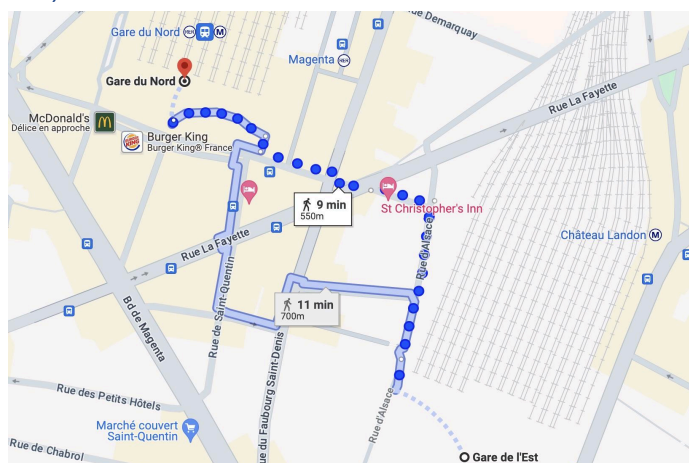
At Antony RER B station, take a train heading to **Saint Rémy-Lès-Chevreuse** (avoid trains which end at Robinson, Massy, Orsay-ville), opposite direction from Paris. Stop at "Bures-sur-Yvette" station.

- From Paris "East railway station" (Gare de l'Est):

You have to reach **Gare du Nord** (North station) where you can connect with **RER B**.

2 alternatives:

- ❖ **By foot (recommended):** "Gare du Nord" is a ~10 minutes walk from "Gare de l'Est"



- ❖ At “Gare du Nord”, follow the sign “**RER B**” (direction South, **Saint-Rémy-Lès-Chevreuse**) (avoid trains which end at Robinson, Massy, Orsay-ville). Stop at “Bures-sur-Yvette” station.

❖ **By the subway:**

- M** **4** **5** Line 4: direction “Porte de Clignancourt”
Line 5: direction “Bobigny - Pablo Picasso”

Trains every ~5 minutes (on average).

Only 1 stop, stop at “Gare du Nord”. BUT you need to buy a ticket prior to accessing the platform, either at an automatic machine (payment by debit/credit card) or at the desk.

Buy directly a ticket to “**Bures-sur-Yvette**” RER station. This ticket, which costs 5 €, will be needed to connect to the RER B in “Gare du Nord” and you have to keep it with you until you leave the train at your final destination (e.g. “Bures-sur-Yvette”).

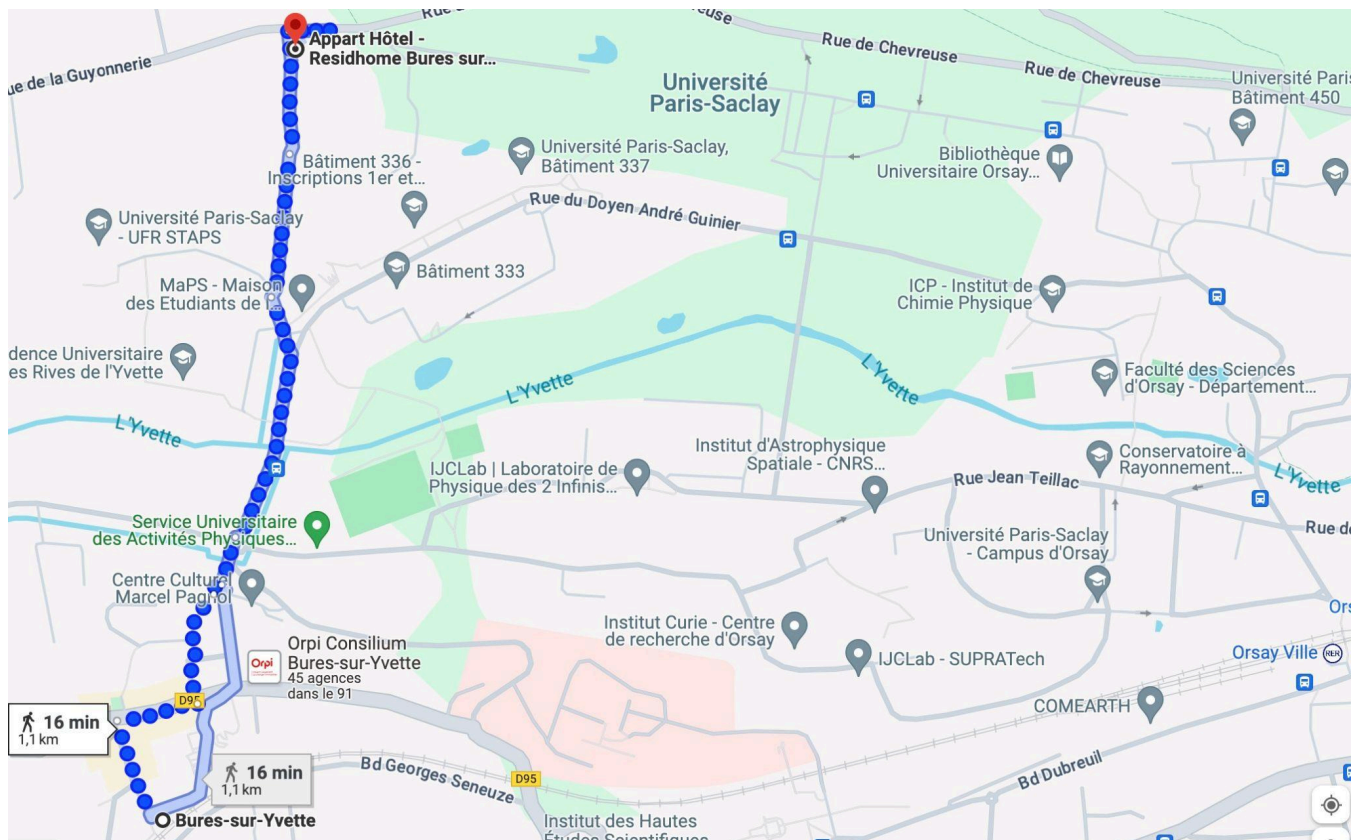
- At “Gare du Nord”, follow the sign “**RER B**” (direction South, **Saint-Rémy-Lès-Chevreuse**) (avoid trains which end at Robinson, Massy, Orsay-ville). Stop at “Bures-sur-Yvette” station.

- **From Central Paris:** reach a **RER B** station and take a train heading to **Saint-Rémy-Lès-Chevreuse**. Note that in Paris at any subway/RER station, you can buy a ticket covering the entire trip from any subway/RER station to “Bures-sur-Yvette”. It costs 5 €. Just make sure to keep it with you until you leave the train at your final destination (e.g. “Bures-sur-Yvette”).

★ **Hosted participants / lecturers:**

Accommodation is booked from **Sunday June 9th** (afternoon) till **Saturday June 15th** (morning) at [Residhome Aparthotel Bures La Guyonnerie](#)

1A, rue de la Guyonnerie, 91440 BURES-SUR-YVETTE, Tel : +33 (0)1 64 86 36 00



Participants are expected to arrive on **June 9 (afternoon)** and depart on June 15 (morning).

Please note that on **Sunday June 9th**, **the dinner is NOT provided**. As there is no restaurant on-site at the Residhome, nor close-by, and as on Sunday afternoons most of the shops are closed in the surroundings of the Residhome, we invite you to buy something to eat before your arrival at the Residhome (e.g. at the airport or at “gare du Nord”).

Participants' accommodation is provided in double (shared) studios. Each studio features twin beds, a bathroom and a small kitchen (microwave, boiler, crockery, fridge mugs,...) for more details visit the [website](#). For your information, the distribution of studios was established in advance and the people who will welcome you at the Residhome desk know about it.

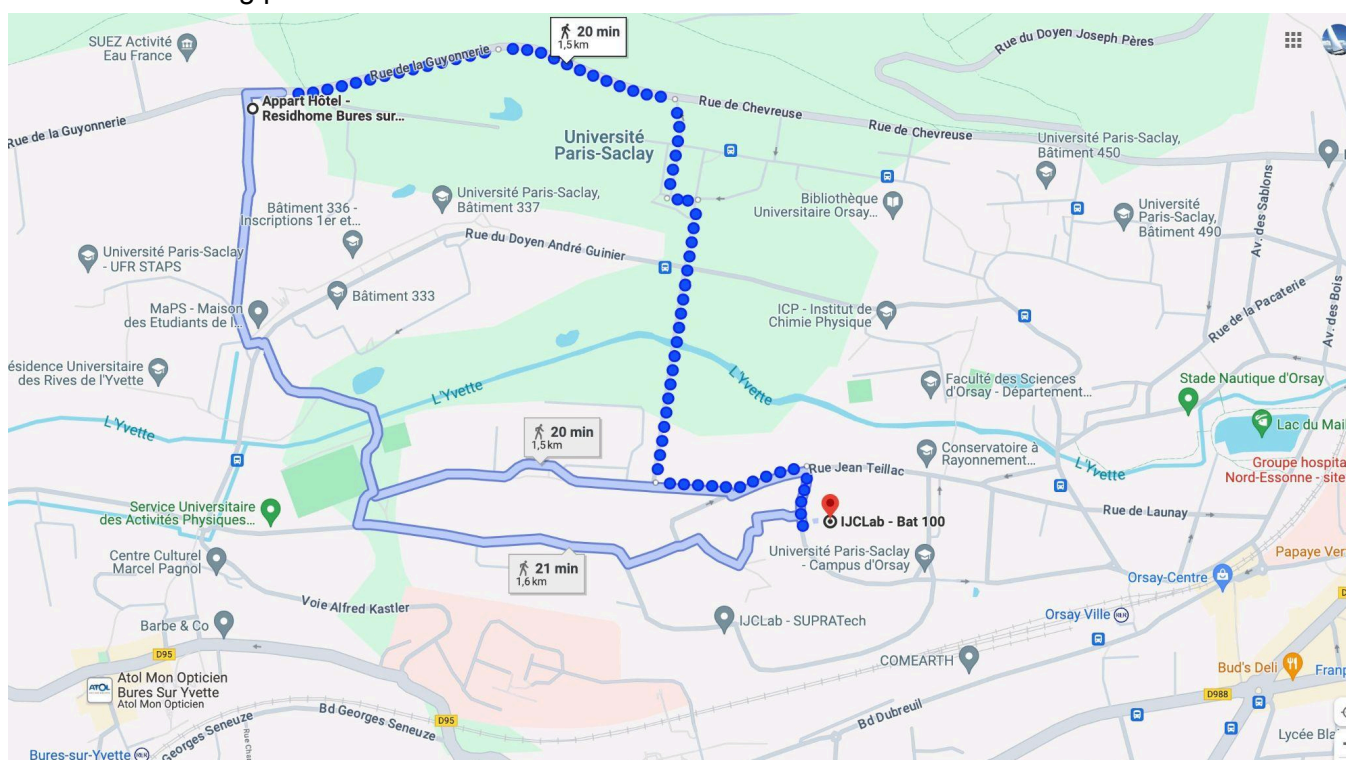


❖ **Breakfasts:**

- From **Monday** June 10th till **Friday** June 14th (included), **breakfasts are NOT provided on-site at the Residhome BUT are served daily at IJCLab** prior to morning sessions. If you would like to drink/eat something before walking to IJCLab, you should anticipate buying/bringing something. Note that there is a vending machine in the lobby.
- On **Saturday** morning (June 15th), the breakfast at the Residhome **is included**.

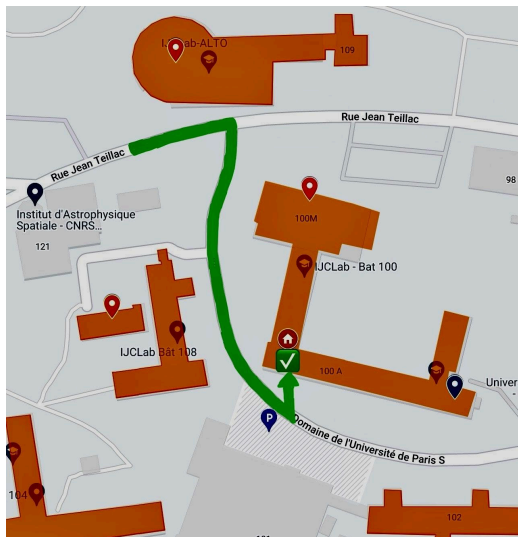
❖ **Reaching IJCLab from the Residhome:**

The Residhome is located at a walking distance (~20 minutes; 1.5 km) from **IJCLab**, where all the sessions are taking place.

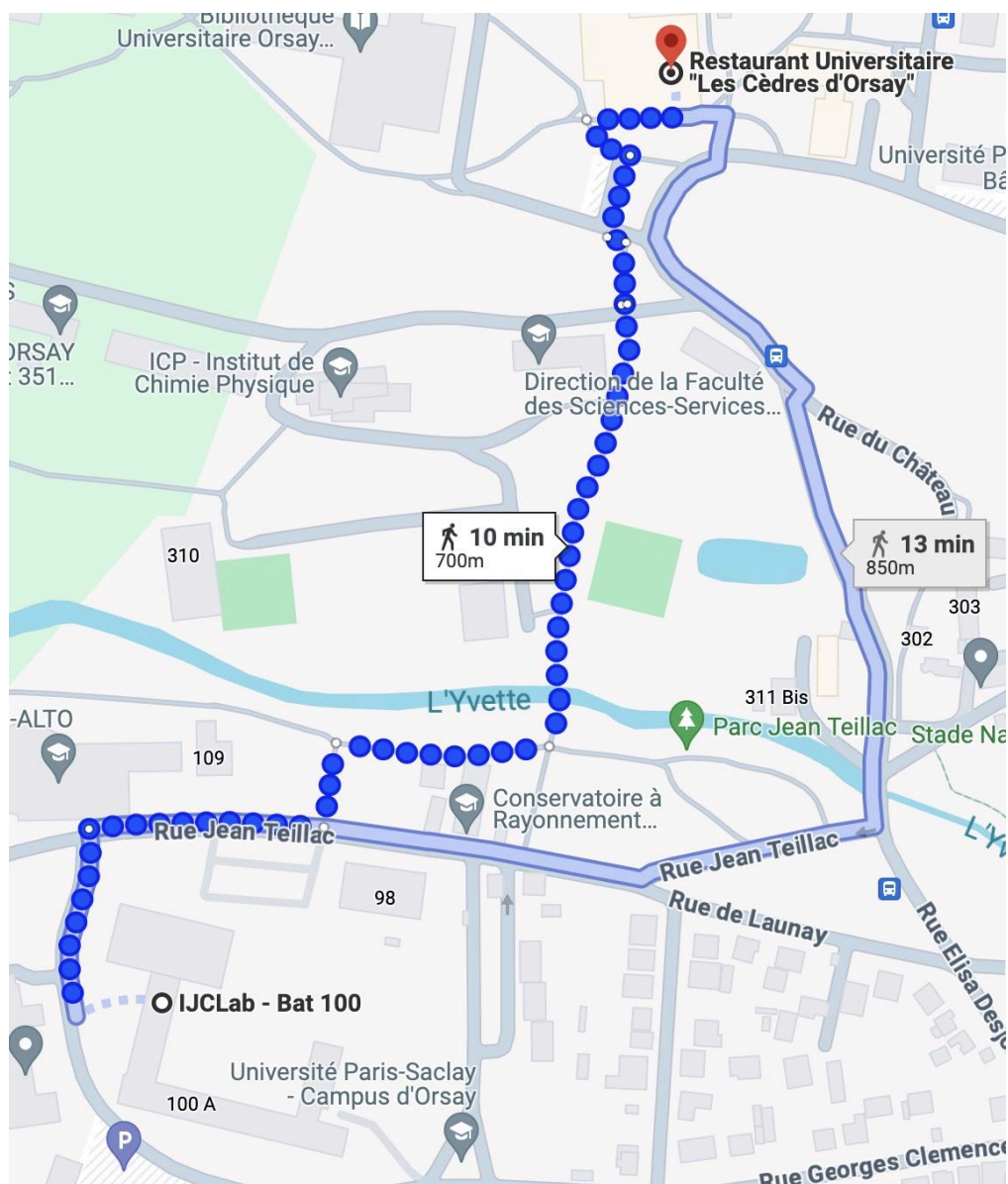


★ **All participants/lecturers:**

On **Monday June 10th**, you are awaited at IJCLab at **8:30 am** at the entrance of building 100 for **registration & breakfast**, see below a schematic map of the surroundings of IJCLab building 100 and a picture of the entrance where we will meet.



Catering: From **Monday to Friday**, catering is included: breakfasts, morning and afternoon coffee breaks, lunches and dinners). Lunches and dinners (Tuesday, Wednesday and Friday) will be taken at the student restaurant (CROUS) “Les Cèdres” located at 10 minutes (~700 m) from the lecture room.



- On Monday June 10th: “Welcome reception” (6:30 pm - 8pm).
- On Tuesday June 13th: social dinner at the restaurant “Le Gramophone”

For any further questions, please feel free to contact us at fhs2hic24@ijclab.in2p3.fr

The school is sponsored by the GDR QCD, the CEA/Irfu, EMMI, CNRS “Nucléaire et Particules”, IJCLab and NUPECC.

Looking forward to welcoming you at IJCLab Orsay for the summer school "From hadronic structure to heavy-ion collisions"!

The organizing committee:

Z. Conesa del Valle (IJCLab, France)

R. Boussarie (CPHT, France)

E. Gonzalez Ferreiro (U. Santiago de Compostela, Spain)

D. Marchand (IJCLab, France)

C. Marquet (CPHT, France)

M. Nguyen (LLR, France)

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S. Porteboeuf (LPC Clermont, France)

M. Winn (CEA, France)

Supported by the IJCLab “Event” department