Interdisciplinarity conference on many-body theory

Third general congress of the NBODY research network

Nancy — June 16 to 18, 2025

 $N{ ext{-}body}$ problem in quantum chemistry, condensed matter physics, nuclear physics, and mathematics



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I. Presentation of the NBODY research network, and aim of this congress

The NBODY research network was created in January 2019. It aims at bringing together the community working on the N-body problem from the viewpoint of quantum chemistry, condensed-matter physics, nuclear physics, and mathematics. The idea is to foster the development of new computational methods in quantum mechanics, the transfer of these methods from one discipline to another, and their efficient computer implementations. To reach this goal, the research network organizes interdisciplinary conferences and workshops. It is also particularly involved in training students and researchers via the organization of several interdisciplinary international schools. The NBODY research network has a web site that can be accessed by clicking [here].

As for the first two general NBODY congresses, the aim of this event is to reinforce the already existing collaborations, and to support the initiation of new ones. Another goal is to favor the integration of PhD students, postdocs, and young researchers in the community. Finally, we would like to facilitate the dialogue between the different topics by including presentations with a pedagogical perspective.

II. General information and venue

Campus: Faculté des Sciences et Technologies, Vandoeuvre-lès-Nancy

Building: Victor Grignard Lecture room: Amphi VG8

II.1 Reaching Nancy

The town of Nancy can be reached through two railway stations of the French national railway company — the SNCF (check their [web site] for ticket reservation) —: the "Nancy gare SNCF" located at the city-center; or the "Lorraine TGV" station with a connection bus line toward the city center of Nancy. The "Nancy Gare SNCF" in the city center is actually located at 1h30 by train from Paris and Luxembourg.

The three closest airports are the [Luxembourg airport], the [Bâle-Mulhouse airport], and the [Lorraine airport]. The Lorraine airport is located between Nancy and Metz.

II.2 Reaching the campus

The lectures will take place on the "campus de la faculté des sciences et technologies de Nancy". The campus can be reached from the city center using one of the two following local public transport lines:

- (i) the Tempo 3 (**T3**) line from the city center (for example, from the "Tour Thiers Gare stop") in the direction of Villers Campus Science. The building is next to the terminus stop;
- (ii) the Tempo 1 (**T1**) from the city center (for example, from the "Gare Pierre Semard" stop) in the direction of Vandoeuvre Brabois-Hôpitaux. The campus is next to the "Vélodrome-Callot" and the "Le Reclus" stops.

You can consult the map of the public transport network of Nancy (STAN) by clicking [here]. The schedules files for the T3 and T1 lines can be consulted by clicking [here]. For each of these lines, the period of interest for us is the Green one (*Période verte* — semaine scolaire, du lundi au vendredi). For your information, the two target schedule files [extracted on April 28, 2025] are also given at the end of this document.

II.3 Reaching the lecture room

The lectures will take place in the Victor Grignard building, in the VG8 amphitheater ("Amphi VG8"). A map of the campus and a map of the building are given at the end of the present document.

II.4 Before and during the lectures

We leave it to the participants to arrange their own accommodation. In case of emergency, please reach this phone number: 0033 625 899 778. Do not hesitate to use the local-contact e-mails of [Séverine Bonenberger], [Thibaud Etienne] or [Jérémy Morere] in case you have any question.

III. Registration and abstract submission

III.1 Registration

For organizational purposes, registration to the school is free of charge but mandatory. Please send an e-mail to [NBODY2025@proton.me]. In your registration e-mail, please provide us with the following:

- 1. First Name
- 2. Last name
- 3. Affiliation

Registration is open until June 2, 2025 in the limit of a hundred participants.

III.2 Abstract submission

Abstract submission for a contributed talk is now closed. Abstract submission for a poster presentation is still open until **June 2**, **2025**. You can download the template you need for your request (poster presentation), either in the Word or LaTeX format, at the following link: [LINK]. To submit your abstract, please send it to the following e-mail address: [NBODY2025@proton.me].

IV. Provisional schedule

In the following table, "IT-XX" means "Invited talk XX" and "IT-XX" means "IT-XX" m

	June 16, 2025	Amphi VG8
12 h00	Organizing committee	Welcoming cocktail
13h30	Matteo Gatti	IT-01
14h00	Marios-Petros Kitsaras	CT-01
14h30	Christian Schilling	IT-02
15h00	Michael Herbst	IT-03
15h30		Coffee break
16h00	Ewa Pastorczak	IT-04
16h30	Stéphanie Egome Nana	CT-02
17h00	Fabris Kossoski	IT-05
17h30	Jérémy Morere	CT-03
18h00		Poster session
19h00		Dinner
\overline{Day} $\overline{2}$	June 17, 2025	\overline{Amphi} $\overline{VG8}$
8h30	Lea M. Ibele	IT-06
9h00	Spondon Sarma	CT-04
9h30	Victor Despré	CT-05
10h00		Coffee break
10h30	Louis Garrigue	IT-07
11h00	Clémentine Barat	CT-06
11h30	Geneviève Dusson	IT-08
12h00	Clément Guillot	CT-07
12h30		Lunch
14h00	Mikael Frosini	IT-09
14h30	Guillaume Hupin	IT-10
15h00	Michael Urban	IT-11
15h30	Elias Khan	IT-12
16h00		Coffee break
16h30	Benjamin Lenz	IT-13
17h00	Stefano Paggi	CT-08
17h30	Carlos Mejutos-Zaera	IT-14
18h00	Carlos Rodriguez-Perez	CT-09
18h30		"Apéro" and Dinner
Day 3	June 18, 2025	Amphi VG8
8h30	David Ferenc	CT-10
9h00	Timothée Audinet	CT-11
9h30	Ryan Benazzouk	CT-12
10h00	André Gomes	CT-13
10h30		Coffee break
11h00	Pauline Colinet	IT-15
11h30	Emmanuel Giner	CT-14
12h00	Hélène Bolvin	IT-16
12h30	Saad Yalouz	IT-17
13h00		Lunch and departures

V. Organization of the congress and financial support

V. Organizing committee

Séverine BONENBERGER Thibaud ETIENNE Jérémy MORERE Julien TOULOUSE

V.2 Scientific committee

Lorenzo Ugo ANCARANI
Eric CANCÈS
Thomas DUGUET
Emmanuel FROMAGER
Emmanuel GINER
Pascal GRANGER
Maria HELLGREN
Pierre-François LOOS
Paola NAVA
Pina ROMANIELLO
André SEVERO PEREIRA GOMES
Julien TOULOUSE
Morgane VACHER

V.3 Financial support

We would like to warmly thank the following departments for their generous financial support:

- The faculty of science and technology for lending us the amphitheater
- The CPM scientific pole of the university of Lorraine
- The C2MP PhD school of the university of Lorraine
- The laboratory of theoretical physics and chemistry (CNRS and university of Lorraine)
- The CNRS, through the NBODY research network
- The European Research Council (ERC) through the "European Union's Horizon Europe" research and innovation program (Grant agreement No. 101163469)

DIRECTION WILLERS Campus Sciences

07:59	07:51	07:27	07:16	07:06	06:55	06:23	05:53	Villers Campus Sciences
07:53	07:45	07:22	07:11	07:01	06:50	06:19	05:49	Villers Mairie
07:46	07:38	07:17	07:06	06:56	06:45	06:14	05:44	Provinces
07:29	07:21	07:05	06:55	06:45	06:34	06:04	05:34	Tour Thiers Gare
07:20	07:12	06:58	06:48	06:38	06:27	05:57	05:27	Place des Vosges
07:05	06:57	06:45	06:35	06:25	06:14	05:44	05:14	Essey Mouzimpré
06:59	06:51	06:40	06:30	06:20	06:09	05:39	05:09	Essey Porte Verte
06:49	06:41	06:31	06:21	06:11	06:00	05:30	05:00	Seichamps Haie Cerlin

9	21:09	20:58		08:13	08:06	Villers Campus Sciences
9	21:05	20:54		08:07	08:00	Villers Mairie
8	21:00	20:49	DE 7H À 20H	08:00	07:53	Provinces
48	20:48	20:37	11 MINUTES	07:43	07:36	Tour Thiers Gare
40	20:40	20:29	UN DEPART	07:34	07:27	Place des Vosges
28	20:28	20:17	©	07:19	07:12	Essey Mouzimpré
:23	20:23	20:12		07:13	07:06	Essey Porte Verte
3	20:15	20:04		07:03	06:56	Seichamps Haie Cerlin

Seichamps Haie Cerlin	21:00	21:20	21:40	22:00	22:30	23:00	23:30	23:59
Essey Porte Verte	21:08	21:28	21:48	22:08	22:38	23:07	23:37	00:06
Essey Mouzimpré	21:13	21:33	21:53	22:13	22:43	23:12	23:42	00:11
Place des Vosges	21:25	21:45	22:05	22:25	22:55	23:24	23:54	00:23
Tour Thiers Gare	21:33	21:53	22:13	22:33	23:03	23:32	00:02	00:31
Provinces	21:45	22:05	22:25	22:45	23:15	23:44	00:14	00:43
Villers Mairie	21:50	22:10	22:30	22:50	23:20	23:49	00:19	00:48
Villers Campus Sciences	21:54	22:14	22:34	22:54	23:24	23:53	00:23	00:52



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DIRECTION SEICHAMPS Haie Cerlin

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Villers Mairie	05:05	05:35	06:05	06:16	06:26	06:36	06:46	06:54
Provinces	05:09	05:39	06:09	06:20	06:30	06:40	06:50	06:58
Saint-Léon	05:20	05:50	06:21	06:32	06:42	06:52	07:03	07:11
Place des Vosges	05:28	05:58	06:29	06:40	06:50	07:00	07:11	07:19
Essey Mouzimpré	05:39	06:09	06:40	06:51	07:01	07:13	07:24	07:32
Essey Porte Verte	05:45	06:15	06:47	06:58	07:08	07:20	07:31	07:39
Seichamps Haie Cerlin	05:54	06:24	06:56	07:07	07:17	07:29	07:41	07:49
Villers Campus Sciences	06:56	07:03			20:04	20:15	20:30	20:45
Villers Mairie	07:01	07:08			20:09	20:20	20:35	20:50
Provinces	07:05	07:12	⊙ •	<u></u>	20:13	20:24	20:38	20:53
Saint-Léon	07:18	07:25		N DEPART	20:25	20:36	20:50	21:05
Place des Vosges	07:26	07:35	11 MINUTES	MINUTES	20:33	20:44	20:58	21:13
Essey Mouzimpré	07:40	07:50	DE 7H À 20H	À 20H	20:45	20:56	21:10	21:25
Essey Porte Verte	07:48	07:58			20:51	21:02	21:15	21:30
Seichamps Haie Cerlin	08:00	08:10			21:00	21:11	21:24	21:39
Villers Campus Sciences	21:00	21:20	21:40	22:00	22:30	23:00	23:30	00:13
Villers Mairie	21:05	21:25	21:45	22:05	22:35	23:05	23:35	00:18
Provinces	21:08	21:28	21:48	22:08	22:38	23:08	23:38	00:21
Saint-Léon	21:20	21:40	22:00	22:20	22:50	23:20	23:50	00:33
Place des Vosges	21:28	21:48	22:08	22:28	22:58	23:28	23:58	00:41
Essey Mouzimpré	21:40	22:00	22:20	22:40	23:10	23:40	00:10	00:53



CONTACTS

Seichamps Haie Cerlin

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54000 NANCY 2, PLACE DE LA RÉPUBLIQUE **ESPACE INFO MOBILITÉS**

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DIRECTION WANDŒUVRE Brabois - Hôpitaux

Essey Mouzimpré	00:40	04:15	04:30	04:45	05:00	05:10	05:20
Mairie de Saint-Max	00:09	04:24	04:39	04:54	05:09	05:19	05:29
Point Central	04:17	04:32	04:47	05:02	05:17	05:27	05:37
Gare - Saint-Léon	04:22	04:37	04:52	05:07	05:22	05:32	05:42
Jean Jaurès	04:25	04:40	04:55	05:10	05:25	05:35	05:45
Vélodrome - Callot	04:31	04:46	05:01	05:16	05:31	05:41	05:51
Vandœuvre Brabois - Hôpitaux	04:41	04:56	05:11	05:26	05:41	05:51	06:01

UN DÉPART TOUTES LES 7 MINUTES DE 5H30 À 19H

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00:23	00:03	23:48	23:33	23:18	23:03	Mairie de Saint-Max
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DIRECTION ESSEY Mouzimpré

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DE 6H3U A 19H3U	06:51	06:40	06:30	06:20	06:05	05:50	05:35	05:20	airie de Saint-Max
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23:54	23:46	23:38	23:34	23:30	23:23	23:10
00:09	00:01	23:53	23:49	23:45	23:38	23:30
00:24	00:16	00:08	00:04	00:00	23:53	23:45
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CONTACTS

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