

NewCompStar School

*“Dense Matter in Compact Stars: Experimental and Observational Signatures”*

21-25 September, Bucharest, Romania

### Final Circular

Dear Participants to the 2015 edition of the NewCompStar School,

It is with great pleasure that the Local Organizing Committee is sending the final circular of the 2nd edition of NewCompStar schools. The school will be held at the Law Faculty of the University of Bucharest situated in Bd. Mihail Kogalniceanu nr. 36-46, Bucharest on September 21th-25th, 2015.

The scientific program of the School is focused on theoretical nuclear physics aspects of compact objects as well as their relationship with experimental measurements and astronomical observations.

The format consists of a series of basic and general courses, a few seminars on more specific topics and one numerical session. PhD students are given the opportunity to present their results during a poster session.

The winners of the best two posters competition are invited to orally present their results on Friday afternoon. Scientific discussions are highly encouraged.

This circular provides updated information on the scientific program and offers some practical information.

#### Time Schedule:

Monday, September 21	Tuesday, September 22	Wednesday, September 23	Thursday, September 24	Friday, September 25
8:30-9:00 Registration				
9:00-9:30 Opening session	9:00-10:30	9:00-10:30	9:00-10:30	9:00-10:30
9:30-10:45 P. Haensel	L. Tolos (I)	L. Tolos (II)	J. Margueron	A. Sedrakian (II)
10:45-11:15 Coffee break	10:30-11:00 Coffee Break	10:30-11:00 Coffee Break	10:30-11:00 Coffee Break	10:30-11:00 Coffee Break
11:15-12:45 C. Providencia (I)	11:00-12:30 C. Providencia (II)	11:00-12:30 N. Chamel (I)	11:00-12:30 N. Chamel (II)	11:00-12:30 G. Pagliara
13:00-14:00 Lunch	12:30-14:00 Lunch	12:30-14:00 Lunch	12:30-14:00 Lunch	12:30-13:30 Poster Winner Session
14:00-15:30 A. Bauswein (I)	14:00-15:30 A. Bauswein (II)	14:00-15:15 G. Martinez-Pinedo	14:00-15:30 F. Galeazzi	13:30-13:45 Closing session
15:30-16:00 Coffee Break	15:30-16:00 Coffee Break	15:30-16:00 Coffee Break	15:30-16:00 Coffee Break	13:45-14:45 Lunch
16:00-17:15 M. Colonna	16:00-18:15 M. Hempel	16:00-18:30 Poster Session	16:00-17:30 A. Sedrakian (I)	
17:15-18:15			16:00-17:30	

S. Guillot			F. Gulminelli (outreach, parallel session)	
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**Topic/Lectures list:**

Equation of State Modeling

- Hadronic matter and EoS - Constanca Providencia (Coimbra University, Portugal)
- EoS signatures from Heavy Ion reactions - Maria Colonna (LNS, Catania, Italy)
- Links between the nuclear matter empirical parameters, exotic nuclei, and neutron stars - Jerome Margueron (IPN, Lyon, France)
- Quark matter and EoS - Armen Sedrakian (Goethe University, Frankfurt am Main, Germany)
- On the conversion of Neutron Stars into Quark Stars - Giuseppe Pagliara (Università degli Studi di Ferrara, Italy)

Macroscopic and Microscopic dynamics

- Relativistic hydrodynamics - Filippo Galeazzi (Goethe University, Frankfurt am Main, Germany)
- Transport phenomena and reaction rates - Laura Tolos (ICE, Barcelona, Spain)
- Crustal heating in accreting neutron stars - Pawel Haensel (Copernicus Astronomical Center, Warsaw, Poland)

Dense matter and Nucleosynthesis

- Nucleosynthesis in neutron star mergers - Andreas Bauswein (Aristotle University, Thessaloniki, Greece)
- Nucleosynthesis in CCSN - Gabriel Martínez-Pinedo (GSI, Darmstadt, Germany)

Neutron Star Cooling and Superfluidity

- Superconductivity and superfluidity in compact stars - Nicolas Chamel (Université Libre de Bruxelles, Belgium)

Exercise session

- Numerical session on the EoS - Matthias Hempel (University of Basel, Switzerland)

Outreach session

- The birth and death of massive stars - Francesca Gulminelli (LPC Caen, France)

**Venue:**

The school will be held in the Stoicescu hall of the Law Faculty of the University of Bucharest, situated at the first floor, right hand aisle. In addition to a the projector screen there will be a 2.20m x 1.20m whiteboard. Free wireless internet is available for participants.

**Outreach session:** an outreach session will take place on Thursday afternoon in the University Library. It is open to high-school students and physicists working in other fields.

**Registration:** there will be no registration fee.

**Social Program:** A COST networking dinner will take place on September the 24th at Hanul lui Manuc restaurant (<http://www.hanulluimanuc.ro/>) starting at 19:00. All participants are invited. In order to book the right number of tables, please acknowledge participation at the registration moment. The menu is supposed to fit all dietary needs.

### **Accommodation:**

Trainees who opted for local accommodation provided by organizers will be housed in the Academica Guest House of the University situated at 5 minutes walk from the school venue. The lane which brings one to the guest house is the one between the Student Residence (at the left) and the Faculty of Law (at the right). The price is 80 lei/night/person in double occupancy rooms and 100 lei/night/person in single occupancy rooms. Single rooms are booked for everybody except otherwise explicitly required. Breakfast will be available from Monday to Friday in the University restaurant for 15-20 lei/meal.

Trainers will be accommodated in the Siqua Hotel ([www.hotelsiqua.ro](http://www.hotelsiqua.ro)), Calea Plevnei 59, a few minutes walk from the school venue. The price is 200 lei/night breakfast included.

Lunches will be served from Monday to Friday at the University restaurant at very affordable prices (typically 15-20 lei/meal). Except the social dinner on Thursday, everybody is encouraged to arrange for the own dinner in one of the numerous city restaurants. The highest diversity and concentration of restaurants is available in the Old Down Town (Lipscani area).

### **Transportation:**

from the Otopeni International Airport to the Law Faculty:

*By bus and metro:*

take the 783 Express line up to the Piata Universitatii, than take bus 61, 66, 90, 91, 336, 601 (4 stops) to Facultatea de Drept.

or

take the 783 Express line up to Piata Unirii, than take metro (line 1) up to Eroilor (2 stops).

Bus fares are as follows: 3.5 lei (express line), 1.30 lei (normal).

For metro, two type of cards exist: 2 trips (5 lei), 10 trips (200 lei).

*By taxi:*

On-demand taxi services are available at Bucharest Henri Coandă International Airport. You may order a taxi car by using the touch screen devices in the public area of the Arrivals Terminal. The passengers get on the taxi-cabs right outside the terminal, on the first floor, by showing the ticket issued by the automatic touch screen. The charges vary between 1, 39 lei/km – 3, 50 lei/km.

The taxi fares at 1.39 lei/km are perfectly fine and non-expensive.

The distance from the Otopeni airport to the Law Faculty is of 18 km.

For the way back, taxi cars can be ordered by phone or web.

Here is a list on Taxi Companies and the corresponding web sites:

<http://www.taximetre.ro/companie/speed-taxi/>

<http://www.taximetre.ro/companie/taxi-cobalcescu/>

<http://www.meridiantaxi.ro/>

Depending of the traffic conditions, it may take between 40 minutes to one and a half hours to go from the Otopeni airport to the city center.

### **Visiting Bucharest:**

In case you have a little time to spend around, there are two permanent exhibitions that are worthwhile to visit: the old Romanian art collection at the National Museum of Art, Calea Victoriei 49-53 (<http://www.mnar.arts.ro/>) and the Cotroceni National Museum (<http://www.muzeulcotroceni.ro/>). The first is a unique and exquisite collection of (mostly religious) medieval artifacts, some of them stemming from the dozens of churches demolished uselessly during the years of communist regime. The second is a former royal residence. In case you choose the second, a reservation made a bit in advance and identity documents are needed. These are security measurements due to the fact that the museum is few meters far from the Presidential Palace.

**Organizing committee:** Adriana Raduta (IFIN-HH, Bucharest), Francesca Gulminelli (LPC-Caen), Virgil Baran (University of Bucharest)

**Contact:** [compstar15@nipne.ro](mailto:compstar15@nipne.ro)

The school is jointly organized by IFIN-HH, University of Bucharest and COST.