



FIRST CIRCULAR:

24/06/2019

**10<sup>th</sup> International workshop on  
Quantum Phase Transitions in Nuclei and Many-Body Systems  
Dubrovnik, Croatia, 29 June - 4 July 2020**

❖ Motivation, Scientific Programme and Hosting Institution:

This series of workshops, initially aimed at shape-phase transitions and critical point phenomena in nuclei, started in Berkeley in 2004 and continued in Camerino (2005), Athens (2006), Sofia (2007), Istanbul (2009), Darmstadt (2012), Seville (2014), Prague (2016), and Padova (2018).

It is our purpose to foster an informative and exciting workshop and keep the informal spirit of lively discussions that represents the true success of these meetings. The sessions will be coordinated by Conveners, that will give general overview, and invite short talks on the following topics:

- Experimental signatures & data
- Quantum phase transitions in nuclei and related systems
- Shapes and symmetries in nuclei
- Transitional nuclei & shape coexistence
- Shell evolution and microscopic approaches
- Excited states quantum phase transitions
- Phase transitions in atomic, molecular, and other domains

The initial focus has progressively broadened to include other, closely connected, topics such as excited state quantum phase transitions, shape-coexistence, shell evolution, phase transitions in atoms and molecules and other domains of quantum physics.

The workshop will be organised by The Hebrew University of Jerusalem, Israel, and the University of Zagreb, Croatia, and will be held in the historical and charming center of the city of Dubrovnik, within the premises of the Inter University Center (IUC) Dubrovnik. IUC is an independent international institution for advanced studies structured as a consortium of universities with a mission to organise and promote contact and exchange through projects, study programmes, courses and conferences across a wide range of scientific concerns. Programme directors and resource persons coming from about 170 member universities worldwide cooperate in organising the activities. IUC is open to new member institutions as well as to new programmes.

❖ Practical info and contacts:

Web-site: <https://www.iuc.hr/conference-details.php?id=347>

Email: [qptn10@phy.hr](mailto:qptn10@phy.hr)

❖ About Dubrovnik:

Dubrovnik is a city on the Adriatic coast in the extreme south of Croatia. The old city of Dubrovnik became a UNESCO World Heritage Site in 1979. The most recognizable feature which defines the physiognomy of the

10th International Workshop on Quantum Phase Transitions in Nuclei and Many-Body Systems :-: QPTn-10  
Dubrovnik, Croatia :-: 29 June-4 July 2020 :-: [www.iuc.hr/conference-details.php?id=347](http://www.iuc.hr/conference-details.php?id=347) :-: [qptn10@phy.hr](mailto:qptn10@phy.hr)



historic city of Dubrovnik and gives it its characteristic appearance, are its intact city walls, which run uninterrupted for 2km encircling the city. This complex structure, consists of a series of forts, bastions, casemate, towers and detached forts. The current name Dubrovnik arrives from the Slavic toponym, indicating a term for the oak forest "dubrava". From its establishment in the 7th century, the town was under the protection of the Byzantine Empire, and after the Crusades came under the sovereignty of Venice (1205-1358). By the Peace Treaty of Zadar in 1358, Dubrovnik ruled itself as a free state. The Republic of Dubrovnik gradually declined after a catastrophic earthquake in 1667. In 1806 the city surrendered to French forces. Supported by its wealth and skilled diplomacy, the city achieved a remarkable level of development, particularly during the 15th and 16th centuries. Dubrovnik was one of the centers of the development of primarily the Croatian language and literature, home to many notable poets, playwrights, painters, mathematicians, physicists and other scholars. Dubrovnik managed to preserve its beautiful Gothic, Renaissance and Baroque churches, monasteries, palaces, and fountains. George Bernard Shaw, an admirer of Dubrovnik, said, "those who seek paradise on Earth should come to Dubrovnik", and called it "the pearl of the Adriatic".

❖ Transportation:

- **By air:** The Dubrovnik (Čilipi) airport is located ~20km from the Dubrovnik city center. The city can be reached from there by taxi (~270 Croatian Kunas (HRK)) or by shuttle bus (45HRK). The shuttle bus is operated upon each plane landing, drives you to Pile area, which is the location of the IUC, and continues to the main bus station in Gruž (near the port).
- **By coach:** Both international and national bus lines are operated to and fro the main bus station in Gruž area. From there you can get a taxi, or use a local bus (1A and 1B) to Pile.
- Dubrovnik is also accessible **by car**, or **by boat**.
- **Local transportations:** Dubrovnik is rather small town, so majority of distances can be overcome by foot. However, there are many local transportations, such as bus, that cover all parts of the city.

Further details, about the transportations to Dubrovnik and local transportations in the city (time tables, fares, etc), are found at: [http://www.tzdubrovnik.hr/lang/en/news/planiranje\\_putovanja/index.html](http://www.tzdubrovnik.hr/lang/en/news/planiranje_putovanja/index.html)

❖ Registration and Accommodation:

Details on the registration procedure, conference fee, and accommodation in Dubrovnik will be available on the Workshop web page with the second circular that will be distributed before the end of 2019.

❖ Local Organising Committee:

**Dario Vretenar (Univ. Zagreb)**  
**Amiram Leviatan (Hebrew Univ.)**  
**Kosuke Nomura (Univ. Zagreb)**  
**Tamara Nikšić (Univ. Zagreb)**