



École des sciences avancées de Luchon **School for advanced sciences of Luchon**

Quantum chaos: fundamentals and applications **Session Workshop I (W1), March 14 - 21, 2015**

Workshop Organizers:

[Rodolfo Jalabert \(Strasbourg\)](#), [Dima Shepelyansky \(Toulouse\)](#), [Denis Ullmo \(Orsay\)](#)

Secretary: [Malika Bentour](#)

Scope: The field of Quantum Chaos, addressing the quantum manifestations of an underlying classically chaotic dynamics, has been mainly developed from a theoretical perspective, and for some times, its main testing grounds have been the Rydberg atoms, the microwave billiards, the ultra-cold atoms in optical lattices, and the low-temperature transport in mesoscopic semiconductor structures. Recently, concepts developed within field of Quantum Chaos have found applications in new domains, within physics and at its interfaces. This has led to important advances concerning the fundamentals and the applications of Quantum Chaos. This workshop aims at gathering the leading researchers of the field to foster exchange and discussion of the latest developments in the subject.

Workshop will be a meeting place of quantum chaos community.

Topics: Quantum interference in many-body systems, Wave chaos and nonlinear effects in disordered systems, Non-Hermitian matrices and random matrix theory developments, Recent developments in semiclassical theory, Applications of chaos assisted tunneling, Matrix applications for economy, Google matrix of directed networks, Transport in mesoscopic systems, Cold atoms in optical lattices, Interactions and Anderson localization, Spatial correlations of wave-functions in classically chaotic systems.

[Read more about Quantum Chaos.](#)

The number of participants is approximately restricted to 50. All invited talks have 30 mins duration.

Talks take place in the mornings and evenings with the day time reserved for discussions and related activity.

List of invited speakers (all confirmed): F. Alet (Toulouse), Y. Alhassid (Yale), A. Altland (Köln), A. Backer (Dresden), H.U. Baranger (Duke), E. Bogomolny (Orsay), P. Bouyer (Bordeaux), O. Brodier (Tours), A. Buchleitner (Freiburg), D. Delande (Paris), K. Ensslin (Zürich), L. Ermann (Buenos Aires), S. Fishman (Technion), K.M. Frahm (Toulouse), Y. Fyodorov (London), I. Garcia-Mata (Buenos Aires), J.C. Garreau (Lille), P. Gaspard (Brussels), B. Georgeot (Toulouse), O. Giraud (Orsay), A. Goussev (Newcastle upon Tyne), D. Guery-Odelin (Toulouse), T. Guhr (Duisburg), M. Hentschel (Dresden), R. Ketzmerick (Dresden), A. Kolovsky (Krasnoyarsk), M. Kus (Warsaw), P. Leboeuf (Orsay), S. Majumadar (Orsay), A. Mouchet (Tours), S. Müller (Bristol), S. Nonnenmacher (Saclay), T. Prosen (Ljubljana), J.-L. Pichard (Saclay), M. Raizen (Austin TX), P. Schlagheck (Lübeck), P. Schmelcher (Hamburg), A. Shudo (Tokyo), M. Sieber (Bristol), L. Sirko (Warsaw), A.D. Stone (Yale), G. Tanner (Nottingham), S. Tomsovic (Pullman), J.D. Urbina (Regensburg), D. Weinmann (Strasbourg), J. Wiersig (Magdeburg), D. Wisniacki (Buenos Aires), J. Zakrzewski (Kraków), K. Zyczkowski (Kraków) [all names are given in Latin transcription]

Short list of students: Yasutaka Hanada (Tokyo), Hiromitsu Harada (Tokyo)

Registration fee: registration fee is fixed at 200 euro for the whole week for full pension (includes lodging on two persons per room basis, as well as all meals, no division by days); a few single person rooms are available at 300 euro. A week ski package is available for additional payment of about 70 euro at the hotel

upon arrival. A few speakers can be accepted to come with an accompanying person, in such a case a speaker should make a firm engagement with organizers, additional person should pay 350 euro (this includes meals, two persons per room, no access to lecture hall for accompanying person). Only early registration of such cases is accepted directly after invitation email of organizers.

ONLY INVITED PARTICIPANTS LISTED ABOVE ARE ACCEPTED TO WORKSHOP.

Payment:

WE ASK PARTICIPANTS TO MAKE THEIR PAYMENTS BY 15 DECEMBER 2014.

Participants are requested to make their payments (200 euro in general case, 300 or 350 euro if you got confirmation for that from organizers) by a credit card via the CNRS web page ([here](#)) (follow English or French, give your address and email, make credit card payment and you will get your bill via email).

Participants, who reserved single person rooms, are informed directly by organizers, no more single rooms are available.

Travel: We cannot provide any travel support. Request for additional fee reduction can be considered however in extreme cases for young participants. Arrival/departure day is Saturday. A BUS TRANSFER WILL BE ORGANIZER ON 14 MARCH WITH DEPARTURE FROM AIROPORT OF TOULOUSE AROUND 18h00; a return bus from Superbagneres to AIROPORT OF TOULOUSE will depart at 21 March around 9h00-10h00; a bus ride takes about 2 hours (additional information will appear later)

Location: Luchon Superbagneres (Ski resort 1800 m heights) ([more info](#))

Information: [Location](#), [Travel](#), [Program](#), [Poster](#)

TALKS WILL START ON SUNDAY 15 MARCH

Sponsors: [Université de Toulouse](#), [CNRS](#), [LABEX NEXT](#), [IRSAMC](#), [EC FET NADINE](#), [Marie de Luchon](#)

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Web page: <http://www.quantware.ups-tlse.fr/ecoledeluchon/sessionw1/>

