



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

Quantum transport in 2D systems - II
Session Workshop V (W5), May 20 - 27, 2017

Workshop Organizers:

[Michel Dyakonov \(University of Montpellier\)](#), [Dima Shepelyansky \(CNRS Toulouse\)](#), [Michael Zudov \(University of Minnesota\)](#)

Secretary: [Malika Bentour](#)

Scope: The discovery of the integer quantum Hall effect in Si MOSFET by Klaus von Klitzing in 1980 (1985 Nobel Prize) has launched an exciting research field dealing with quantum phenomena in two-dimensional (2D) systems. Over the years, other successful realizations of 2D systems have become available, bringing further fascinating discoveries. One famous example is a modulation-doped GaAs/AlGaAs heterostructure which allowed first observations of fractional quantum Hall effects, stripe and bubble phases, microwave-induced resistance oscillations and zero-resistance states, etc. More recent realizations of 2D systems include graphene, oxide interfaces, and transition metal dichalcogenides. In addition, non-degenerate electrons on the cryogenic substrates (e.g. liquid helium) also offer a fascinating platform to investigate quantum properties of 2D electrons. The workshop aims to bring together leading world experts and young researchers working on various aspects of 2D systems to discuss ongoing developments and exchange ideas.

Topics: Quantum Hall effects and related phenomena; roles of different types of disorder on transport phenomena and methods of its characterization; quantum Hall stripe and bubble phases; nonequilibrium phenomena in high Landau levels, e.g., microwave and THz-induced photoresistance, zero-resistance states, nonlinear transport, etc.; microwave-driven electrons on the surface of liquid helium; topological phases of condensed matter; new experimental techniques; advances and prospects in growth of high quality 2D materials and other topics of 2D transport.

[Previous Workshop I in 2015](#)

Confirmed speakers: R. Ashoori (MIT, US), A. Chepelianskii (U. Paris-Sud, FR), G. Csathy (Purdue U., US), I. Dmitriev (U. Regensburg, DE), R. Du (Rice U., US), M. Dyakonov (U. Montpellier, FR), L. Engel (NHMFL, US), K. Ensslin (ETH Zurich, CH), M. Entin (ISP SB RAS, RU), J. Folk (UBC, CA), J. Falson (MPI Stuttgart, DE), B. Feldman (Princeton U., US), B. Fries (MPI Stuttgart, DE), S. Ganichev (U. Regensburg, DE), G. Gervais (McGill U., CA), G. Gusev (USP, BR), J. Jain (PSU, US), K. Kono (RIKEN, JP), D. Kvon (ISP SB RAS, RU), R. Mani (GSU, US), X. Marie (NEXT Toulouse, FR), K. Muraki (NTT, JP), F. Nichele (U. Copenhagen, DK), A. Pasupathy (Columbia U., US), L. Pfeiffer (Princeton U., US), A. Pinczuk (Columbia U., US), J. Pollanen (MSU, US), V. Pribiag (UMN, US), Q. Qian (Purdue U., US), M. Shayegan (Princeton U., US), D. Shepelyansky (CNRS Toulouse, FR), Q. Shi (UMN, US), I. Sodemann (MIT, US), S. Studenikin (IMS NRC, CA), S. Vitkalov (CCNY, US), J. Weis (MPI Stuttgart, DE), B. Willett (Alcatel-Lucent, US), M. Zudov (UMN, US).

Short communications: A. Gauss (MPI Stuttgart, DE), A. Kriisa (GSU, USA), S. Mashhadi (MPI Stuttgart, DE), M. Roeoesli (ETH Zurich, CH), O. Rossokhaty (UBC, CA), R. Savytsky (MPI Stuttgart, DE).

Registration fee: All workshop participants are expected to pay a registration fee which will cover lodging for 7 nights (Sat-Sat) at [Les Jardins de Ramel](#) or [Hotel Le Majestic](#), coffee breaks and lunches on working days (Mon-Fri), social dinner (Thu), excursion to mountains and lakes (Sun), and a visit to thermal baths of Luchon. We anticipate the registration fees to be as follows:

- A). Invited speaker: 270 euro, double occupancy in a furnished apartment with 3 rooms (Ramel two bedrooms)
- B). Invited speaker: 370 euro, single occupancy in a furnished apartment with 2 rooms (Ramel one bedroom), or room at Hotel Le Majestic.
- C). Invited speaker: 470 euro, single occupancy in a furnished apartment with 3 rooms (Ramel two bedrooms).

D). Student: 200 euro, 3-4 persons in a furnished apartment with 3 rooms at Ramel.

E). Accompanying person(s) can stay with a speaker who selected option B) or C). without paying a registration fee. However, accompanying persons who would like to participate in workshop social activities are requested to pay a registration fee of 160 euro which covers five lunches, social dinner, a visit to thermal baths, excursion and airport bus transfer.

Please note that since only a very limited number of apartments with 2 rooms are available, registration option B) will be processed on a first come, first served basis.

Registration and payment: To guarantee participation, payments of the registration fees must be made by **March 3, 2017** via a credit card at the [CNRS web page](#). The receipt for your payment will be send to you by email (NOTE: click on QT2DS2017 and go to registration; this site of workshop QT2DS2017 does not allow to pay twice for the same person, so use another email and family name for accompanying person payment, slight name modification will work; RESEARCHERS working in France can make payments via their Labs, contact D.Shepelyansky)
NO LODGING WILL BE PROVIDED FOR PAYMENTS DONE AFTER 15 MARCH 2017.

Bus transfer Toulouse-Luchon: There will be a large bus (FARRUS) from Toulouse airport to Luchon on May 20 at 16:45 (departure from airport ground level, exit porte D; 2 hours 20 mins trip, responsible Alexei Chepelianski); this bus will pass via "gare routiere" at 17:15 to pick up participants from the Toulouse railway station ("gare routiere" CD31 [link](#)) is located 50 meters to the right from the main exit of the railway station nearby to the stop of Navette bus to airport which is the meeting point).

Bus transfer Luchon-Toulouse airport: Return bus will be from Luchon to Toulouse airport (direct) on May 27 at 9:30, departure from Ramel (approximate arrival time to the airport 11:10 - 11:30).

To reach airport from Toulouse railway station: take metro line A to metro Les Arenes, change there to tramway line T2 direct to airport (same metro ticket, ride duration about 25 mins) or take a direct Navette bus to airport (stops at bus station 50 meters left of front railway station entrance, runs each 20 mins, ride duration approx 25 mins); same way in the opposite direction from airport to railway station. Public transportation options to Luchon can be found [here](#).

LATE ARRIVALS: [SEE INFO HERE](#)

Information: [Location](#), [Travel](#), [Recommendations](#), [Program + slides](#), [Photos + views](#), [Poster](#)

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Web page: <http://www.quantware.ups-tlse.fr/ecoledeluchon/sessionw5/>

