

SCIENTIFIC PRODUCTION

0. SUMMARY

- Highlights: 3 *Science*, 2 *Nature*, 3 *Nature physics*, 3 *Nature Communications*, 2 *PRX* all as principal investigator (PI) ; 13 *PRL* as PI or among first authors ; 1 monograph ; 2 articles for the diffusion to a broader scientific audience ; 1 dedicated full article in a mainstream scientific magazine (in '*La Recherche*' by S. Guilbaud, 09/2015).

- 51 peer-reviewed publications (46 as a main author, [Google Scholar](#)).

- Citations: 3338 (Google) 2224 (ISI)

- h-index: 31 (Google) 27 (ISI)

The novelty of the developed approaches has repeatedly allowed us to make scientific breakthroughs, outside the main trends.

1. ARTICLES

Note: Prestigious distinctions are pointed out¹. Citations are from Google Scholar.

[1.1] *Energy redistribution between quasiparticles in mesoscopic silver wires*

F. Pierre, H. Pothier, D. Esteve, M.H. Devoret, J. Low Temp. Phys. **118**, 437 (2000) ; cond-mat/9912138. 65 citations.

[1.2] *Comparison of energy and phase relaxation in metallic wires*

A.B. Gougam, F. Pierre, H. Pothier, D. Esteve, Norman O. Birge, J. Low Temp. Phys. **118**, 447 (2000) ; cond-mat/9912137. 103 citations.

[1.3] *Multiple Andreev reflections revealed by the energy distribution of quasiparticles*

F. Pierre, A. Anthore, H. Pothier, C. Urbina, D. Esteve, Phys. Rev. Lett. **86**, 1078 (2001). 53 citations.

[1.4] *Electrodynamic dip in the local density of states of a metallic wire*

F. Pierre, H. Pothier, P. Joyez, Norman O. Birge, D. Esteve, M.H. Devoret, Phys. Rev. Lett. **86**, 1590 (2001). 54 citations.

[1.5] *Electron-electron interactions in mesoscopic wires*

F. Pierre, Ann. Phys. (Paris) **26**, N.4 (2001) ; tel-00002410. 31 citations.

[1.6] *Observation of a controllable π -junction in a 3-terminal Josephson device*

J. Huang, F. Pierre, Tero T. Heikkila, Frank K. Wilhelm, Norman O. Birge, Phys. Rev. B **66**, 020507(R) (2002). 52 citations.

¹ Approximately 1/3 of Nature publications are selected for a 'Nature News & Views'; ~1/3 (~1/4) of Science publications are selected for a 'Science Perspectives' (for the 'First Release' program previously called 'Science Express'); ~3 publications are selected each month for the 'Journal Club for Condensed Matter Physics', among ~1500 articles; about 100 papers out of the more than 18000 that APS publishes each year are chosen for coverage with a Viewpoint in Physics.

- [1.7] *Dephasing by extremely dilute magnetic impurities revealed by Aharonov-Bohm oscillations*
F. Pierre, Norman O. Birge, Phys. Rev. Lett. **89**, 206804 (2002). 96 citations.
- [1.8] *Magnetic-field-dependent quasiparticle energy relaxation in mesoscopic wires*
A. Anthore, F. Pierre, H. Pothier, D. Esteve, Phys. Rev. Lett. **90**, 076806 (2003). 89 citations.
- [1.9] *Dephasing of electrons in mesoscopic metal wires*
F. Pierre, A.B. Gougam, A. Anthore, H. Pothier, D. Esteve, Norman O. Birge, Phys. Rev. B **68**, 085413 (2003). 294 citations.
- [1.10] *An RF-driven Josephson bifurcation amplifier for quantum measurements*
I. Siddiqi, R. Vijay, F. Pierre, C.M. Wilson, M. Metcalfe, C. Rigetti, L. Frunzio, M.H. Devoret, Phys. Rev. Lett. **93**, 207002 (2004). 416 citations.
- [1.11] *Intensity of Coulomb interaction between quasiparticles in diffusive metallic wires*
B. Huard, A. Anthore, F. Pierre, H. Pothier, Norman O. Birge, D. Esteve, Solid State Commun. **131**, 599 (2004) ; cond-mat/0404208. 25 citations.
- [1.12] *Direct observation of dynamical switching between two driven oscillation states of a Josephson junction*
I. Siddiqi, R. Vijay, F. Pierre, C.M. Wilson, L. Frunzio, M. Metcalfe, C. Rigetti, R.J. Schoelkopf, M.H. Devoret, D. Vion, D. Esteve, Phys. Rev. Lett. **94**, 027005 (2005). 210 citations.
- [1.13] *Emission/Absorption Asymmetry in the Quantum Noise of a Josephson Junction*
P.-M. Billangeon, F. Pierre, H. Bouchiat, R. Deblock, Phys. Rev. Lett. **96**, 136804 (2006). 100 citations.
- [1.14] *Universal conductance fluctuations in epitaxial GaMnAs ferromagnets*
L. Vila, R. Giraud, L. Thevenard, A. Lemaître, F. Pierre, J. Dufouleur, D. Mailly, B. Barbara, G. Faini, Phys. Rev. Lett. **98**, 027204 (2007). 49 citations.
- [1.15] *Very High Frequency Spectroscopy and Tuning of a Single-Cooper-Pair-Transistor with an On-chip Generator*
P.-M. Billangeon, F. Pierre, H. Bouchiat, R. Deblock, Phys. Rev. Lett. **98**, 126802 (2007). 25 citations.
- [1.16] *AC Josephson effect and resonant Cooper pair tunneling emission of a Cooper Pair Transistor*
P.-M. Billangeon, F. Pierre, H. Bouchiat, R. Deblock, Phys. Rev. Lett. **98**, 216802 (2007). 38 citations.
- [1.17] *Multicontact Measurements of a Superconducting Sn Nanowire*
D. Lucot, F. Pierre, D. Mailly, K. Yu-Zhang, S. Michotte, F. de Menten de Horne, L. Piraux, Appl. Phys. Lett. **91**, 042502 (2007). 21 citations.
- [1.18] *Quantum Non-Demolition Readout Using a Josephson Bifurcation Amplifier*
N. Boulant, G. Ithier, P. Meeson, F. Nguyen, D. Vion, D. Esteve, I. Siddiqi, R. Vijay, C. Rigetti, F. Pierre, M. Devoret, Phys. Rev. B **76**, 014525 (2007). Times cited: 80.

- [1.19] *Experimental Test of the Dynamical Coulomb Blockade Theory for Short Coherent Conductors*
C. Altimiras, U. Gennser, A. Cavanna, D. Mailly, F. Pierre, Phys. Rev. Lett. **99**, 256805 (2007). 36 citations.
- [1.20] *Nonequilibrium Experiments in Mesoscopic Multi-terminal SNS Josephson Junctions*
M.S. Crosser, Jian Huang, F. Pierre, Pauli Virtanen, Tero T. Heikkilä, F.K. Wilhelm, Norman O. Birge, Phys. Rev. B **77**, 014528 (2008). 29 citations.
- [1.21] *Out of Equilibrium Noise in Electronic Devices: From the Classical to the Quantum Regime*
P.-M. Billangeon, F. Pierre, H. Bouchiat, R. Deblock, J. Stat. Mech. (2009) P01041. 8 citations.
- [1.22] *Magnetic-field antisymmetry of photovoltaic voltage in evanescent microwave fields as seen in a semiconductor Hall bar*
A. Chepelianskii, S. Guéron, F. Pierre, A. Cavanna, B. Etienne, H. Bouchiat, Phys. Rev. B **79**, 195309 (2009).
- [1.23] *Non-Equilibrium Edge Channel Spectroscopy in the Integer Quantum Hall Regime*
C. Altimiras, H. le Sueur, U. Gennser, A. Cavanna, D. Mailly, F. Pierre, Nature Physics **6**, 34 (2010). (Selected for ‘Journal Club for Condensed Matter Physics’, 11/2009). 222 citations.
- [1.24] *Plasmon scattering approach to energy exchange and high-frequency noise in $\nu=2$ quantum Hall edge channels*
P. Degiovanni, C. Grenier, G. Fève, C. Altimiras, H. le Sueur, F. Pierre, Phys. Rev. B **81**, 121302(R) (2010). 85 citations.
- [1.25] *Energy Relaxation in the Integer Quantum Hall Regime*
H. le Sueur, C. Altimiras, U. Gennser, A. Cavanna, D. Mailly, F. Pierre, Phys. Rev. Lett. **105**, 056803 (2010). 172 citations.
- [1.26] *Tuning Energy Relaxation along Quantum Hall Channels*
C. Altimiras, H. le Sueur, U. Gennser, A. Cavanna, D. Mailly, F. Pierre, Phys. Rev. Lett. **105**, 226804 (2010). 122 citations.
- [1.27] *A la recherche des interactions entre électrons dans les conducteurs unidimensionnels*
A. Anthore, H. le Sueur, C. Altimiras, U. Gennser, D. Mailly, F. Pierre, Images de la physique année 2010 (2011).
- [1.28] *Strong back-action of a linear circuit on a single electronic quantum channel*
F.D. Parmentier, A. Anthore, S. Jezouin, H. le Sueur, U. Gennser, A. Cavanna, D. Mailly, F. Pierre, Nature Physics **7**, 935 (2011). 41 citations.
- [1.29] *Quantum coherence engineering in the integer quantum Hall regime*
P-A. Huynh, F. Portier, H. le Sueur, G. Faini, U. Gennser, D. Mailly, F. Pierre, W. Wegscheider, P. Roche, Phys. Rev. Lett. **108**, 256802 (2012). 68 citations.
- [1.30] *Chargeless heat transport in the fractional quantum Hall regime*
C. Altimiras, H. le Sueur, U. Gennser, A. Anthore, A. Cavanna, D. Mailly, F. Pierre, Phys. Rev. Lett. **109**, 026803 (2012). 54 citations.

- [1.31] *Tomonaga-Luttinger physics in electronic quantum circuits*
S. Jezouin, M. Albert, F.D. Parmentier, A. Anthore, U. Gennser, A. Cavanna, I. Safi, F. Pierre, *Nature Communications* **4**, 1802 (2013). 62 citations.
- [1.32] *Quantum limit of heat flow across a single electronic channel*
S. Jezouin, F.D. Parmentier, A. Anthore, U. Gennser, A. Cavanna, Y. Jin, F. Pierre, *Science* **342**, 601 (2013). (Selected for *Science Express*; *Dedicated Science Perspectives* [B. Sothmann and C. Flindt, *Science* **342**, 569 (2013)] and ‘*La Recherche*’ full article [S. Guilbaud, *La Recherche* **503**, 58 (09/2015)]). 215 citations.
- [1.33] *Limite quantique du flux de chaleur*
A. Anthore, S. Jezouin, F.D. Parmentier, U. Gennser, F. Pierre, *Reflète de la physique* **42**, 16 (2014).
- [1.34] *Two-channel Kondo effect and renormalization flow with macroscopic quantum charge states*
Z. Iftikhar, S. Jezouin, A. Anthore, U. Gennser, F.D. Parmentier, A. Cavanna, F. Pierre, *Nature* **526**, 233 (2015). (*Dedicated Nature News & Views* [K. Le Hur, *Nature* **526**, 203 (2015)]). 108 citations.
- [1.35] *Controlling charge quantization with quantum fluctuations*
S. Jezouin, Z. Iftikhar, A. Anthore, F.D. Parmentier, U. Gennser, A. Cavanna, A. Ouerghi, I.P. Levkivskiy, E. Idrisov, E.V. Sukhorukov, L.I. Glazman, F. Pierre, *Nature* **536**, 58 (2016). (*Dedicated Nature News & Views* [Y. Nazarov, *Nature* **536**, 38 (2016)]). 43 citations.
- [1.36] *Primary thermometry triad at 6 mK in mesoscopic circuits*
Z. Iftikhar, A. Anthore, S. Jezouin, F.D. Parmentier, Y. Jin, A. Cavanna, A. Ouerghi, U. Gennser, F. Pierre, *Nature Communications* **7**, 12908 (2016). 41 citations.
- [1.37] *Heat Coulomb blockade of one ballistic channel*
E. Sivre, A. Anthore, F.D. Parmentier, A. Cavanna, U. Gennser, A. Ouerghi, Y. Jin, F. Pierre, *Nature Physics* **8**, 145 (2018). (Put forward on cover page). 42 citations.
- [1.38] *Tunable Quantum Criticality and Super-ballistic Transport in a ‘Charge’ Kondo Circuit*
Z. Iftikhar, A. Anthore, A.K. Mitchell, F.D. Parmentier, U. Gennser, A. Ouerghi, A. Cavanna, C. Mora, P. Simon, F. Pierre, *Science* **360**, 1315 (2018). (Selected for *Science’s First Release* program; published as a *Research Article*). 51 citations.
- [1.39] *Circuit quantum simulation of a Tomonaga-Luttinger liquid with an impurity*
A. Anthore, Z. Iftikhar, E. Boulat, F.D. Parmentier, A. Cavanna, A. Ouerghi, U. Gennser, F. Pierre, *Phys. Rev. X* **8**, 031075 (2018). (*Dedicated Physics Viewpoint* [E. Dalla Torre, E. Sela, *Physics* **11**, 94 (2018)] and *Focus article* in the *German Physik Journal* [D.M. Kennes, S. Andergassen, V. Meden, *Physik Journal*, December 2018 issue, page 20]). 23 citations.
- [1.40] *Macroscopic electron quantum coherence in a solid-state circuit*
H. Duprez, E. Sivre, A. Anthore, A. Aassime, A. Cavanna, A. Ouerghi, U. Gennser, F. Pierre, *Phys. Rev. X* **9**, 021030 (2019). 18 citations.
- [1.41] *Transmitting the quantum state of electrons across a metallic island with Coulomb interaction*

H. Duprez, E. Sivre, A. Anthore, A. Aassime, A. Cavanna, U. Gennser, F. Pierre, *Science* **366**, 1243-1247 (2019). 7 citations.

[1.42] *Electronic heat flow and thermal shot noise in quantum circuits*

E. Sivre, H. Duprez, A. Anthore, A. Aassime, F.D. Parmentier, A. Cavanna, A. Ouerghi, U. Gennser, F. Pierre, *Nature Communications* **10**, 5638 (2019). 11 citations.

[1.43] *Universality at work – the local sine-Gordon model, lattice fermions, and quantum circuits*

A. Anthore, D.M. Kennes, E. Boulat, S. Andergassen, F. Pierre & V. Meden, *Eur. Phys. J. Special Topics* **229**, 663-682 (2020). 5 citations.

[1.44] *Dynamical Coulomb blockade under a temperature bias*

H. Duprez, F. Pierre, E. Sivre, A. Aassime, F.D. Parmentier, A. Ouerghi, A. Cavanna, U. Gennser, I. Safi, C. Mora, A. Anthore, *Phys. Rev. Research* **3**, 023122 (2021).

2. PEER-REVIEWED PROCEEDINGS

[2.1] *Microfabricated ultrasonic transducers: towards robust models and immersion devices*

I. Ladabaum, X. Jin, H.T. Soh, F. Pierre, A. Atalar, B.T. Khuri-Yakub, “1996 IEEE Ultrasonics Symposium. Proceedings”, 335 (1996). 45 citations.

[2.2] *Probing interactions in mesoscopic gold wires*

F. Pierre, H. Pothier, D. Esteve, M.H. Devoret, A.B. Gougam, Norman O. Birge, “NATO Advanced Research Workshop on Size Dependent Magnetic Scattering”, édité par V. Chandrasekar et C. Van Haesendonck (Kluwer, 2001) ; cond-mat/0012038. 22 citations.

[2.3] *Influence of magnetic field on effective electron-electron interactions in a copper wire*

A. Anthore, F. Pierre, H. Pothier, D. Esteve, M.H. Devoret, “Electronic Correlations: From Meso- to Nano-physics”, édité par T. Martin, G. Montambaux et J. Trân Thanh Vân (EDP Sciences, 2001) ; cond-mat/0109297. 10 citations (NASA ADS).

[2.4] *Electron dephasing in metallic narrow wires at low temperatures*

F. Pierre, Norman O. Birge, *J. Phys. Soc. Jpn* **72**, 19 (2003). 2 citations.

[2.5] *Energy and phase relaxation in mesoscopic metals*

Norman O. Birge, F. Pierre, “Quantum Phenomena in Mesoscopic Systems”, édité par B. Altshuler, A. Tagliacozzo, V. Tognetti (IOS, 2003).

[2.6] *Electrons dephasing in mesoscopic metal wires*

Norman O. Birge, F. Pierre, “Fundamental Problems of Mesoscopic Physics Interactions and Decoherence” édité par I. Lerner, B. Altshuler, Y. Gefen (NATO series, Springer, 2004) ; cond-mat/0401182. 1 citation.

[2.7] *The Josephson Bifurcation Amplifier for Quantum Measurements*

I. Siddiqi, R. Vijay, F. Pierre, C.M. Wilson, L. Frunzio, M. Metcalfe, C. Rigetti, M.H. Devoret, “Quantum Computation: solid state systems”, édité par P. Delsing, C. Granata, Y. Pashkin, B. Ruggiero, P. Silvestrini (Kluwer, 2004) ; cond-mat/0507248. 3 citations.

3. INVITED CONFERENCES/ADVANCED SCHOOLS

Note: I have for policy the sharing of invited presentations with my team. For invited conferences performed by a member of my team on a project under my direct supervision, the name of the speaker is indicated.

- [3.1] *Electrons in mesoscopic wires : energy exchange and dephasing*
Invited talk, plenary session of the KITP international conference: “Glassy States of Matter and Nonequilibrium Quantum Dynamics”, Santa Barbara University (USA), May 2003.
- [3.2] *Dynamical Coulomb blockade in short coherent conductors*
Invited talk, plenary session of the national GDR2426 conference "Physique Quantique Mesoscopique", Aussois (France), March 19-22, 2007.
- [3.3] *Dynamical Coulomb blockade in short coherent conductors*
Invited talk, plenary session of the international RTN Nano Meeting 2008 "Fundamentals of Nanoelectronics", Bremen (Germany), April 7-11, 2008.
- [3.4] *Dynamical Coulomb blockade in short coherent conductors*
Invited talk, plenary session of the national RTRA conference “Quantum coherence and many-body correlations: From mesoscopic to macroscopic scales”, Orme des Merisiers, CEA, Saclay (France), October 22-23, 2008.
- [3.5] *Energy relaxation in the quantum Hall regime*
Invited talk (H. le Sueur), plenary session of the national GDR 2426 conference "Physique Quantique Mesoscopique", Aussois (France), December 6-11, 2008.
- [3.6] *Non-equilibrium edge channel spectroscopy in the integer quantum Hall regime*
Invited talk (C. Altimiras), Plenary session at the international Nanosciences Foundation workshop “Electronic noise and relaxation in nanostructures”, Grenoble (France), April 1-2, 2010.
- [3.7] *Non-Equilibrium Edge Channel Spectroscopy in the Integer Quantum Hall Regime*
Invited talk (H. le Sueur), plenary session of the international RTN Nano Meeting 2010 "Fundamentals of Nanoelectronics", Bremen (Germany), April 7-11, 2010.
- [3.8] *Energy relaxation in the integer quantum Hall regime*
Invited talk, plenary session of the international workshop “Physics of Micro and Nano Scale Systems”, Ystad (Sweden), June 20-24, 2010.
- [3.9] *Exploring and tuning the dynamics along quantum Hall edge channels*
Invited talk, plenary session of the international symposium “ISNTT 2011”, Atsugi (Japan), January 11-14, 2011.
- [3.10] *Nature of Edge Excitations in the Integer Quantum Hall Regime*
Invited talk (H. le Sueur), plenary session of the 7th “Rencontres de Moriond” international conference on quantum mesoscopic physics, La Thuile (Italy), March 13-20, 2011.
- [3.11] *Exploring and tuning the dynamics along quantum Hall edge channels*
Invited talk, plenary session of the international conference ‘Electronic Properties of Two-Dimensional EP2DS-19’, Tallahassee (FL, USA), July 25-29, 2011.

- [3.12] *Strong back-action of a linear circuit on a single electronic quantum channel*
Invited talk, plenary session of the workshop "Charge and heat dynamics in nano-systems", Orsay (France), October 10-12, 2011.
- [3.13] *Strong back-action of a linear circuit on a single electronic quantum channel*
Invited talk (F. Parmentier), plenary session of the national conference GDR 2426 "Physique Quantique Mesoscopique", Aussois (France), December 5 – 8, 2011.
- [3.14] *Strong back-action of a linear circuit on a single electronic quantum channel*
Invited talk (A. Anthore), plenary session of the international "Advanced research workshop 'Meso-2012': Mesoscopic and strongly correlated electron systems — non-equilibrium and coherent phenomena at nanoscale", Chernogolovka (Russia), June 17-23, 2012.
- [3.15] *Energy transport in the quantum Hall regimes*
Invited talk (U. Gennser), '31st International Conference on the Physics of Semiconductors (ICPS 2012)', Zurich (Switzerland), July 29-August 3, 2012.
- [3.16] *Energy transfers in the quantum Hall regime*
Invited talk, plenary session of the international workshop 'Quantum Transport in Correlated Systems', Seoul (Korea), August 27-30, 2012.
- [3.17] *Energy transfers in the quantum Hall regime*
Invited talk, 24th Conference of the EPS Condensed Matter Division (CMD-24)', Edinburgh (UK), September 3-7, 2012.
- [3.18] *Tomonaga-Luttinger physics in electronic quantum circuits*
Invited talk (A. Anthore), plenary session of the international workshop 'Interferometry and Interactions in Non-Equilibrium Meso- and Nano- Systems', Trieste (Italy), April 8-12, 2013.
- [3.19] *Ultra-sensitive cryogenic voltage amplifier to probe mesoscopic circuits*
Invited talk (A. Anthore), plenary session of the international workshop '10th International Workshop On Low Temperature Electronics WOLTE10', Paris (France), October 14-17, 2013.
- [3.20] *Quantum limit of heat flow across a single electronic channel*
Invited talk (S. Jezouin), plenary session of the national conference GDR2426 'Physique quantique mesoscopique', Aussois (France), December 9-12, 2013.
- [3.21] *Quantum limit of heat flow across a single electronic channel*
Invited talk (A. Anthore), plenary session of the international workshop 'NanoSaclay nanoelectronics', Paris (France), December 10-13, 2013.
- [3.22] *Energy relaxation, edge magnetoplasmons and heat transport: an experimental view*
Invited talk (U. Gennser), plenary session of the international conference 'Emerging Phenomena in Quantum Hall Systems (EPQHS-5)', Rehovot (Israel), July 07-09, 2014.
- [3.23] *Quantum limit of heat flow across a single electronic channel*
Contributed talk, international conference 'Low Temperature Physics (LT 27)', Buenos Aires (Argentina), August 06-13, 2014.
- [3.24] *Heat currents and their quantum limit in electronic circuits*

Invited talk (U. Gennser), international conference ‘International conference on the physics of semiconductors (ICPS 2014)’, Austin, Texas (USA), August 10-15, 2014.

[3.25] *Experimental investigation of the energy transfers in quantum Hall edge channels driven out-of-equilibrium*

Invited talk, International workshop ‘Equilibration and glassiness in classical and quantum systems’, Oxford (UK), September 26-27, 2014.

[3.26] *Quantum limit of heat flow across a single electronic channel*

Invited talk (F.D. Parmentier), workshop ‘Perspectives in Quantum Thermoelectricity: time-dependence, correlations & measurements’, Marseille (France), November 12, 2014.

[3.27] *Coherent-quantum-conductor circuits: from charge quantization to Dynamical Coulomb Blockade*

Invited talk (A. Anthore), plenary session of the national conference GDR2426 ‘Physique quantique mesoscopique’, Aussois (France), December 01-04, 2014.

[3.28] *Quantum laws of electricity in composite mesoscopic circuits*

Invited talk, international workshop ‘Quantum Nano Electronics Training (QNET)’, Pisa (Italy), December 10-11, 2014.

[3.29] *Quantum laws of electricity in composite mesoscopic circuits*

Invited talk, international workshop ‘Non-equilibrium dynamics of low-dimensional electronic systems’, Leipzig (Germany), January 12-15, 2015.

[3.30] *Quantum collapse of charge quantization on a metallic node*

Invited talk (A. Anthore), international workshop ‘30 years of quantronics’, Paris (France), June 22-25, 2015.

[3.31] *Two-channel ‘charge’ Kondo effect*

Invited talk, international workshop ‘30 years of quantronics’, Paris (France), June 22-25, 2015.

[3.32] *Two-channel ‘charge’ Kondo effect*

Invited talk, international workshop ‘Onedim-15’, Dresden (Germany), September 14-18, 2015.

[3.33] *Quantum limit of heat flow across a single electronic channel*

Invited talk (A. Anthore), international Conference ‘Third Conference on Quantum Thermodynamics’, Porquerolles (France), October 11-16, 2015.

[3.34] *La Thermique Quantique*

Keynote ‘opening’ invited talk, Congrès Français de Thermique 2016, Toulouse (France), Mai 31-June 3, 2016.

[3.35] *Multi-channel charge Kondo effect: a testbed for the many-body quantum physics*

Invited talk, 33rd International Conference on the Physics of Semiconductors (ICPS 2016), Beijing (China), July 31-August 5, 2016.

[3.36] *Quantum limit of heat flow across a single electronic channel*

Invited talk (S. Jezouin), international Conference ‘New trends in quantum heat transport and thermoelectrics (smr 2824)’, Trieste (Italy), August 22-26, 2016.

[3.37] *Controlling charge quantization with quantum fluctuations*

Invited talk, international workshop on materials and quantum circuits (LIA-Sherbrooke), Saint Lambert des Bois (France), April 19-20, 2017.

[3.38] *Quantum phase transitions and correlated Coulomb phenomena in circuits*

Lectures (3x1.5h), Physics advanced school ‘Aux frontières de la physique mésoscopique’ (3rd edition), Quebec (Canada), June 11-23, 2017.

[3.39] *Controlling charge quantization with quantum fluctuations*

Invited talk (A. Anthore), international conference ‘Frontiers of Quantum and Mesoscopic Thermodynamics’ (FQMT’17), Prague (Czech Republic), July 9-15, 2017.

[3.40] *Tunable quantum criticality and super-ballistic transport in a ‘charge’ Kondo circuit*

Invited talk, international conference ‘Nanophysics, from fundamental to applications’ (XIII Rencontres du Vietnam), Quy Nhon (Vietnam), July 30-Aug 05, 2017.

[41] *Tunable quantum criticality and super-ballistic transport in a ‘charge’ Kondo circuit*

Keynote ‘half plenary’ speaker, 28th international conference on ‘Low temperature physics’ (LT28), Gothenburg (Sweden), Aug 09-16, 2017.

[3.42] *Tunable quantum criticality in ‘charge’ Kondo circuits*

In-depth seminar, international doctoral training session ‘Frontiers of Condensed Matter’, Les Houches (France), Sept 18-29, 2017.

[3.43] *Quantum limit of heat flow and heat Coulomb blockade in a ballistic quantum channel*

Invited talk (U. Gennser), international workshop ‘Thermal NanoSciences and NanoEngineering’, Lille (France), November 23-24, 2017.

[3.44] *Quantum thermal transport in circuits*

Linnaeus Colloquium, Chalmers University, Gothenburg (Sweden), May 17, 2018.

[3.45] *Heat Coulomb blockade of one ballistic channel*

Invited talk, international conference ‘Quantum Dynamics of Disordered Interacting Systems’, Trieste (Italy), June 11-15, 2018.

[3.46] *Heat Coulomb blockade of one ballistic channel*

Invited talk (E. Sivre), International Conference on the Physics of Semiconductors (ICPS 2018), Montpellier (France), July 29-August 03, 2018.

[3.47] *Tunable quantum criticality and super-ballistic transport in a ‘charge’ Kondo circuit*

Invited talk, international workshop ‘Quantum Information and Correlation in Quantum Dots’, Daejeon (Republic of Korea), August 13-17, 2018.

[3.48] *Heat Coulomb blockade of one ballistic channel*

Invited talk (A. Anthore), international workshop QT60 on thermodynamics, thermoelectrics and transport in quantum devices, Helsinki (Finland), September 19-21, 2018.

[3.49] *Circuit Quantum Simulation of a Tomonaga-Luttinger Liquid with an Impurity*

Invited talk, national GDR2426 conference "Physique Quantique Mesoscopique", Aussois (France), December 03-06, 2018.

[3.50] *Tunable quantum criticality and super-ballistic transport in a 'charge' Kondo circuit*

Invited talk (A. Anthore), international conference "Rencontres de Moriond – Quantum Mesoscopic Physics", La Thuile (Italy), March 16-23, 2019.

[3.51] *Quantum thermal transport in circuits*

Physik-Kolloquium, Leipzig University, Leipzig (Germany), July 02, 2019.

[3.52] *Transmitting the quantum state of electrons across a metallic island with Coulomb interaction*

Invited talk (H. Duprez), national GDR2426 conference "Physique Quantique Mesoscopique", Aussois (France), December 02-04, 2019.

[3.53] *Transmitting the quantum state of electrons across a metallic island with Coulomb interaction*

Invited talk, International conference on topological materials science (TopoMat2019), Kyoto (Japan), December 03-07, 2019.

[3.54] *Quantum coherence in 2D electron-gas-based circuits*

Invited talk (A. Aassime), International conference NanoTN-2020: 'Nano-Materials: Theory and Experiments, Marrakech (Morocco), February 19-22, 2020

[3.55] *Coulomb blockade of heat, noise and electricity in a temperature-biased quantum channel*

Invited talk, national GDR2426 conference "Physique Quantique Mesoscopique", Aussois (France), November 23-26, 2020.

4. ARTICLES WITHOUT PEER-REVIEW

[4.1] *Quand la chaleur devient quantique*

S. Guilbaud (featured full article), La Recherche (mainstream scientific magazine) **503**, 58 (September 2015).

[4.2] *Physique quantique : record de froid pour des électrons*

F. Pierre, The Conversation (on-line mainstream media), article 65911, September 26, 2016.