

## Department Staff

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**CARLOS TEJEDOR** Full Professor [Quantum Optics with Nanostructures](#)

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Honors and Awards

Fellow of the American Physical Society.

Research Interests

Semiconductor nanostructures: Quantum wells, Q. wires and Q. dots.

Quantum Hall effect.

Exciton and polariton condensation.

Quantum optics with semiconductor nanostructures.

Quantum plasmonics.

Relevant/Recent Publications

Filtering multiphoton emission from state-of-the-art cavity QED, C. Sanchez-Muñoz, F. P. Laussy, E. del Valle, C. Tejedor and A. Gonzalez-Tudela, *Optica* 5, 14 (2018). [\[URL\]](#)

Spontaneous patterns in coherently driven polariton microcavities, G. Díaz-Camacho, C. Tejedor and F.M. Marchetti, *Phys. Rev. B* 97, 245309 (2018). [\[URL\]](#)

Quantum phase transitions detected by a local probe using time correlations and violations of Leggett-Garg inequalities, F. Gomez-Ruiz, J. J. Mendoza-Arenas, F. J. Rodriguez, C. Tejedor and L. Quiroga, *Phys. Rev. B*, 93, 035441 (2016). [\[URL\]](#)

Enhanced two-photon emission from a dressed biexciton, C. Sanchez-Muñoz, F.P. Laussy, C. Tejedor and E. del Valle, *New J. Phys.* 17, 123021 (2015). [\[URL\]](#)

Emitters of N-photon bundles, C. Sanchez Munoz, E. del Valle, A. Gonzalez-Tudela, K. Muller, S. Lichtmanecker, M. Kaniber, C. Tejedor, J.J. Finley, and F.P. Laussy. *Nature Photonics*, 8, 550 (2014). [\[URL\]](#)

Theory of the strong coupling between quantum emitters and propagating surface plasmons A. González-Tudela, P. A. Huidobro, L. Martín-Moreno, C. Tejedor, y F.J.

García-Vidal, Phys. Rev. Lett., 110, 126801 (2013). [\[URL\]](#)

Control and ultrafast dynamics of a two-fluid polariton switch, M. De Giorgi, D. Ballarini, E. Cancellieri, F. M. Marchetti, M. H. Szymanska, C. Tejedor, R. Cingolani, E. Giacobino, A. Bramati, G. Gigli, y D. Sanvitto, Phys. Rev. Lett. 109, 266407 (2012). [\[URL\]](#)

Theory of frequency-filtered and time-resolved N-photon correlations, E. del Valle, A. Gonzalez-Tudela, F. P. Laussy, C. Tejedor y M. J. Hartmann, Phys. Rev. Lett., 109, 183601 (2012). [\[URL\]](#)

Entanglement of two qubits mediated by one-dimensional plasmonic waveguides, A. Gonzalez-Tudela, D. Martin-Cano, E. Moreno, L. Martin-Moreno, C. Tejedor y F.J. Garcia-Vidal, Phys. Rev. Lett., 106, 020501 (2011). [\[URL\]](#)

Persistent currents and quantised vortices in a polariton superfluid, D. Sanvitto, F. M. Marchetti, M. H. Szymanska, G. Tosi, M. Baudisch, F. P. Laussy, D. N. Krizhanovskii, M. S. Skolnik, L. Marrucci, A. Lemaître, J. Bloch, C. Tejedor y L. Viña, Nature Phys., 6, 527 (2010). [\[URL\]](#)

Collective fluid dynamics of a polariton condensate in a semiconductor microcavity, A. Amo, D. Sanvitto, F. P. Laussy, D. Ballarini, E. Del Valle, M. D. Martín, A. Lemaître, J. Bloch, D. N. Krizhanovskii, M. S. Skolnick, C. Tejedor y L. Viña, Nature, 457, 291 (2009). [\[URL\]](#)

Strong coupling of quantum dots in microcavities, F. P. Laussy, E. del Valle, y C. Tejedor, Phys. Rev. Lett., 101, 083601 (2008). [\[URL\]](#)

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