

## Research Fellows

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**ELENA DEL VALLE** PhD - Ramón y Cajal  
Fellow [Quantum Polaritonic](#)

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### Biographical Info

2004 Physics degree at the UAM.

2009 PhD at the UAM.

2009-2011 Newton International Fellowship at the University of Southampton.

2011-2013 Humboldt Research Fellowship at the Technische Universität München.

2014 FP7-IEF Marie Curie Fellowship at the UAM.

2015-2020 Ramón y Cajal contract at the UAM

### Research Interests

Light-matter interaction, cavity-QED, quantum correlations, interferences, light sources, measurement issues, in different platforms (quantum dots, atoms, circuit QED).

### Relevant/Recent Publications

Strong-coupling of quantum dots in microcavities, Phys. Rev. Lett. 101, 083601 (2008). [\[URL\]](#)

Collective fluid dynamics of a polariton condensate in a semiconductor microcavity, Nature 457, 291 (2009). [\[URL\]](#)

Dynamics of the Formation and Decay of Coherence in a Polariton Condensate, Phys. Rev. Lett. 103, 096404 (2009). [\[URL\]](#)

Mollow triplet under incoherent pumping, Phys. Rev. Lett. 105, 233601 (2010). [\[URL\]](#)

Generation of a two-photon state from a quantum dot in a microcavity, New J. Phys. 13, 113014 (2011). [\[URL\]](#)

Theory of frequency-filtered and time-resolved N-photon correlations, Phys. Rev. Lett. 109, 183601 (2012). [\[URL\]](#)

Distilling one, two and entangled pairs of photons from a quantum dot with cavity QED effects and spectral filtering, New J. Phys. 15, 025019 (2013). [\[URL\]](#)

Chapter Luminescence spectra of Quantum Dots in Microcavities, in the book "Quantum optics with semiconductor nanostructures", Woodhead Publishing Series in Electronic and Optical Materials No. 28 (2012).

Monograph of my dissertation, Microcavity Quantum Electrodynamics (VDM Verlag 2010).

Emitters of N-photon bundles C. Sánchez Muñoz et al., FP Laussy, doi:10.1038/nphoton.2014.114, Nature Photonics (2014). [\[URL\]](#)

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