

# Juan Camilo LÓPEZ CARREÑO

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*Curriculum Vitæ as of August 2017*

*First name:* Juan Camilo  
*Family name:* López Carreño  
*Nationality:* Colombian  
*Date of Birth:* July 29, 1991 (I'm 26 years old)

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## Scientific education

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### **Ph. D. in Physics (2015-current)**

Universidad Autónoma de Madrid, Madrid, Spain

*Thesis title:* Theory and applications of quantum light as a driving field

*Thesis Advisor:* Dr. Fabrice Laussy & Dr. Elena del Valle.

### **M.Sc. in Physics (2014-2015)**

Universidad Autónoma de Madrid, Madrid, Spain

*Thesis title:* Classical and quantum excitations of polaritons.

*Thesis Advisor:* Dr. Fabrice Laussy & Dr. Elena del Valle.

*GPA:* 9.21/10.0

### **B.Sc. in Physics (2009-2014)**

Universidad Nacional de Colombia, Bogotá, Colombia.

*Thesis title:* Study of the preparation and dynamical evolution of a three-photon state in a semiconductor microcavity.

*Thesis Advisor:* Dr. Herbert Vinck Posada.

*GPA:* 4.5/5.0 (Best physics undergraduate thesis award).

## Scholarships

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### **Doctoral Scholarship (2016-2020)**

Universidad Autónoma de Madrid, Madrid, Spain

*Contrato predoctoral para Formación de Personal Investigador 2016 (FPI-UAM)*

### **Master Scholarship (2014-2015)**

Universidad Autónoma de Madrid, Madrid, Spain

*Ayudas para estudios de Master UAM-2014*

## Languages

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Spanish:	Native
English:	Fluent (109/120 TOEFL iBT)
German:	Very high (C1 level)
Italian:	Basic (A2 level)
French:	Basic (A1 level)

## List of Publications

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Number of citations (since 2014): 83  
h-index: 4

### 2017

- † *Photon Correlations from the Mollow Triplet*  
**J. C. López Carreño**, E. del Valle & F. P. Laussy  
*Laser Photon. Rev.* 1700090 (2017)
- † *Structure of the harmonic oscillator in the space of n-particle Glauber correlators*  
E. Zubizarreta Casalengua, **J. C. López Carreño**, E. del Valle & F. P. Laussy  
*J. Math. Phys.* **58**, 062109 (2017)
- † *Frequency-resolved Monte Carlo*  
**J. C. López Carreño**, E. del Valle & F. P. Laussy  
ArXiv:1705.10978 (2017)

### 2016

- † *Criterion for Single Photon Sources*  
**J. C. López Carreño**, E. Zubizarreta Casalengua, E. del Valle & F. P. Laussy  
ArXiv: 1610.06126
- † *Entangling a polariton with a photon: effect of the interactions at the single particle level*  
Á. Cuevas, B. Silva, **J. C. López Carreño et al.**  
ArXiv:1609.01244 (2016)
- † *Excitation with Quantum Light. I. Exciting a harmonic oscillator*  
**J. C. López Carreño** & F. P. Laussy  
*Phys. Rev. A* **94**, 063825 (2016)
- † *Excitation with Quantum Light. II. Exciting a two-level system*  
**J. C. López Carreño**, C. Sánchez Muñoz, E. del Valle & F. P. Laussy  
*Phys. Rev. A* **94**, 063826 (2016)

### 2015

- † *Exciting polaritons with Quantum Light*  
**J. C. López Carreño**, C. Sánchez Muñoz, D. Sanvitto, E. del Valle & F. P. Laussy  
*Phys. Rev. Lett.* **115**, 196402 (2015)  
Selected as *Editor's Suggestion*

### 2014

- † *Ultrafast Control and Rabi Oscillations of Polaritons*  
L. Dominici, D. Colas, S. Donati, J. P. Restrepo Cuartas, M. de Giorgi, D. Ballarini, G. Guirales,  
**J. C. López Carreño**, A. Bramati, G. Gigli, E. del Valle, F. P. Laussy & D. Sanvitto  
*Phys. Rev. Lett.* **114**, 226401 (2014)
- † *Preparation of a three-photon state in a nonlinear cavity-quantum dot system*  
**J. C. López Carreño** & H. Vinck Posada  
*Phys. Scr.* **T160**, 014027 (2014)

## Conferences and academic events

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### 2017

- † *Criterion for Single Photon Sources (Contributed talk)*  
AOP 2017 - III Interantional Conference on Applications in Optics and Photonics  
Faro, Portugal
- † *Entangling a photon with a Polariton: interaction at the single particle level (Contributed talk)*  
International Workshop Physics of Exciton-Polaritons in Artificial Lattices  
Daejeon, Korea

### 2016

- † *Exciting with Quantum Light (Invited talk)*  
Internaltional Worshop on Functional and Nanostructured Material (FNM16)  
Tbilisi, Georgia
- † *Exciting Polaritons with Quantum Light (Contributed talk)*  
17th International Conference on Physics of Light-Matter Coupling in Nanostrucutres (PLMCN17)  
Nara, Japan
- † *Polaritons & Quantum Sources (Departamental seminar)*  
Universidad Autónoma de Madrid  
Madrid, Spain
- † *Nanotechnology meets Quantum Information (Summer school)*  
Donostia International Physics Center  
San Sebastian, Spain

### 2015

- † *Mollow Spectroscopy (Poster)*  
Third International Conference on Quantum Technologies  
Moscow, Russia
- † *Exciting Polaritons (Departamental seminar)*  
Universidad Autónoma de Madrid  
Madrid, Spain
- † *"Polaflow" midterm Meeting (Contributed talk)*  
Universidad Autónoma de Madrid  
Madrid, Spain

### Before 2014

- † *Entanglement due to a beam-splitter of two single photon sources (Contributed talk)*  
1st Workshop on Metamaterial and Photinic Crystals (2013)  
Armenia, Colombia
- † *Preparation of a three-photon state in a semiconductor cavity (Poster)*  
20th Central European Workshop on Quanutm Optics (2013)  
Stockholm, Sweden  
Awarded the IOP Prize for the Best Poster of the Conference
- † *Theoretical Physics (Summer School, 2012)*  
Utrecht University  
Utrecht, The Netherlands
- † *Applications of Quantum Mechanics II (Summer school, 2012)*  
Universidad Nacional Autónoma de México & Universidad de Guadalajara  
Cuernavaca, México
- † *Study of the temporal evolution of a Star-like quantum state of ligght through the Wigner function (Poster)*  
Research in Optical Science Congress (2012)  
Berlin, Germany