Rinaldo Trotta

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CV in a Nutshell

Rinaldo Trotta received his PhD in Materials Science in 2008 from the University of Rome "La Sapienza", where he also stayed as a postdoc for one year. In this period, he developed a new method for the fabrication of site-controlled quantum dots using the surprising effects of hydrogen incorporation in dilute nitride semiconductors. His work was recognized with the "G. Turilli" prize for the best Italian PhD thesis in (experimental) material science in 2009. In 2010 he joined the Institute for Integrative Nanosciences (at IFW Dresden, Germany), first as postdoc and then as leader of a research group working on the effects of external perturbations on the optical properties of self-assembled quantum dots. In 2012 he moved as University Assistant to the Johannes Kepler University (JKU) Linz (Austria), where he founded the Nanophotonics group. At JKU, he became Assistant Professor (2013) and, after completing his Habilitation (venia docendi), Associate Professor in Experimental Physics (2017). The work performed in Austria was recognized by the Austrian Physical Society with the prestigious F. Kohlrausch prize 2016 (selected from all part of physics – one prize for experimental physics every two years, alternately with the Ludwig Boltzmann prize for theoretical physics). In November 2017 he moved back to the University of Rome (Italy) "La Sapienza", where he is Associate Professor and leads the Nanophotonics group. In 2021 he received the national scientific qualification to Full Professor in Experimental Physics of Matter (02/B1), valid until 2030. His current research activity focuses on the possibility of using semiconductor nanostructures as sources of non-classical light for quantum information science and technology. Rinaldo Trotta has published more than 100 scientific publications (11 on Nature and Science journals), gathering about 3300 citations with an h-index of 32 (data from google scholar). He has given more than 40 invited talks and colloquia and he is currently principal investigator of three European H2020 projects: one ERC Starting Grant (SPQRel), one Quantera Project (HYPER- U-P-S), and one FET Project (Qurope).

Personal Details

Nationality: Italian

Date and place of birth: 16/08/1981

Current Position: Associate Professor and Group Leader at the Physics Department, Sapienza University of Rome

Research/Academic Appointment

05/2021-05/2030	National scientific qualification to Full Professor in Experimental Physics of Matter (02/B1)
11/2017-	Associate Professor of Experimental Physics of Matter, Department of Physics, Sapienza University of Rome (Italy)
06/2017-	Associate Professor in Experimental Physics, Institute of Semiconductor and Solid state Physics, Johannes Kepler University Linz (Austria)
04/2017-	Habilitation (venia docendi) in experimental physics at the Johannes Kepler University Linz. Title: "Towards Scalable Sources of Single and Entangled Photons based on Semiconductor Quantum Dots"
11/2013 – 06/2017	Assistant Professor, Institute of Semiconductor and Solid state Physics, Johannes Kepler University Linz (Austria)
06/2012 – 10/2013	University Assistant, Institute of Semiconductor and Solid state Physics, Johannes Kepler University Linz (Austria)
11/2011 – 05/2012	Group Leader, Institute for Integrative Nanosciences , Leibnitz Institute for Solid State and Materials Research Dresden (Germany)
03/2010 – 10/2011	Post-doctoral research associate, Institute for Integrative Nanosciences, Leibnitz Institute for Solid State and Materials Research Dresden (Germany)
01/2009 – 02/2010	Post-doctoral research associate, Department of Physics, Sapienza University of Rome (Italy)

Education

December 2008	PhD in Materials Science at the Sapienza University of Rome (awarded as the best Italian PhD thesis in materials science - Giuseppe Turilli Prize)
September 2005	Master Degree (Laurea) in Physics at the Sapienza University of Rome. Grade: 110/110 cum laude

Awards and Honors

September 2016	Fritz Kohlrausch Price for the outstanding work performed in Austria (selected from all part of physics – one prize for experimental physics every two years, alternately with the Ludwig Boltzmann prize for theoretical physics)
April 2016	Receive the ERC STARTING GRANT 2015
April 2010	Giuseppe Turilli Prize for best Italian PhD thesis in experimental materials science

Visiting Professorship

11/2015 – 11/2015	Visiting Professor, Central European Institute of Technology of Masaryk University (Czech Republic).

Head of Research Groups

2017 –	Leader of the Nanophotonics Group, Department of Physics, Sapienza University of Rome (Italy) - https://trotta-nanophotonics.weebly.com.html
2012 –	Leader of the Nanophotonics Group, Institute of Semiconductor and Solid state Physics, Johannes Kepler University Linz (Austria) - http://www.jku.at/hfp/content/e18401 5/e199854/e192995
2011 – 2012	Head of the Optics Group, Institute for Integrative Nanosciences , Leibnitz Institute for Solid State and Materials Research Dresden (Germany)

Supervision of Graduate Students/Postdoctoral Fellow

(Current group members are indicated with *)

Postodcs:

1) *Francesco Basso Basset (supervision at Sapienza). Topic: Quantum optics with semiconductor nanostructures
2) *Emanuele Roccia (supervision at Sapienza). Topic: Quantum optics with semiconductor nanostructures
3) Javier Martin-Sanchez (supervision at JKU). Topic: Cleanroom processing and advanced optical spectroscopy
4) Davide Tedeschi (supervision at Sapienza). Topic: Quantum optics with semiconductor nanostructures
5) *Michele Rota (supervision at Sapienza). Topic: Cleanroom processing and quantum optics

PhD Students:

6) *Julia Neuwirth (supervision at Sapienza). Topic: Quantum optics with semiconductor nanostructures
7) *Matteo Savaresi(supervision at Sapienza). Topic: Strain-engineering of 2D materials
8) *Giuseppe Ronco (supervision at Sapienza). Topic: Strain-engineering of 2D materials
9) Daniel Huber: (supervision at JKU). Topic: Quantum optics with semiconductor nanostructures
10) Marcus Reindl: (supervision at JKU). Topic: Quantum optics with semiconductor nanostructures
11) Christian Schimpf: (co-supervision at JKU). Topic Cleanroom processing and advanced optical spectroscopy
12) Huiying Huang: (supervision at JKU). Topic Cleanroom processing and advanced optical spectroscopy
13) Johannes Wildmann: (supervision at JKU). Topic Cleanroom processing and advanced optical spectroscopy

14) Bianca Hofer: (supervision at IFW). Topic: Optical spectroscopy of semiconductor heterostructures
15) Jiaxiang Zhang: (supervision at IFW). Topic: Optical spectroscopy of semiconductor heterostructures
16) Santhosh Kumar (supervision at IFW). Topic: Optical spectroscopy of semiconductor heterostructures
Current Master Students:
17) *Francesco Salusti (supervision at Sapienza). Topic: Quantum optics with semiconductor nanostructures
18) *Gabriele Lovicu (supervision at Sapienza). Topic: Quantum optics with semiconductor nanostructures
19) *Federico Trezzini (supervision at Sapienza). Topic: Strain-engineering of 2D materials
20) *Claudio Pardo (supervision at Sapienza). Topic: Quantum optics with semiconductor nanostructures
21) *Tobias Krieger (co-supervision at JKU). Topic: Cleanroom processing and quantum optics

Teaching activity

(Only main courses are listed)

2019 – 2021	Optics and Laboratory, Physics Department (Sapienza) – teacher
2019 – 2021	Physics, Pharmaceutical Chemistry and Technology (Sapienza) – teacher
2017 – 2020	Physics I, Chemistry Department (Sapienza) – teacher
2018 – 2019	Quantum mechanics and solid state physics, Engineering Department (Sapienza) – teacher
2016 – 2017	Quantum Dots, Physics Department (JKU) – teacher
2014 – 2017	Quantum Optics and Quantum electronics, Physics Department (JKU) – teacher
2015 – 2016	Introduction to Quantum Optics, Physics Department (JKU) – teacher
2014 – 2016	Nano optics, Physics Department (JKU) – teacher
2014 – 2015	Fundamentals of Physics 2, Physics Department (JKU) – teaching assistant
2014 – 2015	Fundamentals of Physics 3, Physics Department (JKU) – teaching assistant
2013 – 2014	Fundamentals of Physics 4, Physics Department (JKU) – teaching assistant
2013 – 2014	Nano-photonics with Quantum Dots, Physics Department (JKU) – teacher
2012 – 2013	Physics of Low-Dimensional Systems, Physics Department (JKU) – teacher
2009 – 2010	Condensed matter physics, Physics Department (Sapienza) – teaching assistant
2008 – 2009	Physics 2, Chemistry Department (Sapienza) – teaching assistant
2007 – 2008	Physics 1, Chemistry Department (Sapienza) – teaching assistant

Selected Research Project Leadership

(Only project with relevant leadership role are listed)

2020 – 2023	FET-OPEN (H2020). QUROPE (Quantum Repeaters using On-demand Photonic Entanglement). Coordinatore Prof. K. D. Joens. Role of Rinaldo Trotta: PI of the node Sapienza Rome. Total budget of the project: ~ 3.400.000 Euro.
2020 – 2022	FARE 2018 (Miur). STRAIN-2D (Strain-Engineering of Two-Dimensional Materials). Role of Rinaldo Trotta: PI. Total budget of the project: ~ 120.000 Euro.
2016 – 2021	ERC STARTING GRANT (H2020). SPQRel (Entanglement distribution via Semiconductor-Piezoelectric Quantum-Dot RelaysHybrid Artificial and Natural Atomic Systems) –Role of Rinaldo Trotta: PI. Total budget of the project: ~ 1.500.000 Euro.
2018 – 2021	QUANTERA (H2020). HYPER-U-P-S (Hyper-Entanglement from ultra-bright photon pairs sources). Coordinatore Prof. A. Predojevic. Role of Rinaldo Trotta: PI of the node JKU Linz. Total budget of the project: ~ 800.000 Euro.

2013 – 2016 FET- Proactive (ICT-2011.9.9). HANAS (Hybrid Artificial and Natural Atomic Systems) – Coordinator: Prof. V. Zwiller. Role of Rinaldo Trotta: Co-PI of the node JKU Linz. Total budget of the project: ~ 2.500.000 Euro.

Conception and set-up of laboratories (from empty rooms)

2012-2013 Conception and set-up of two laboratories (from empty rooms) for advanced optical spectroscopy (JKU-Linz), now belonging to the Nanophotonics Group at JKU Linz. Total Budget: ~ 900.000 Euro.

2017-2018 Conception and set-up of two laboratories (from empty rooms) for quantum optics with nanostructures (Sapienza-Rome), now belonging to the Nanophotonics Group at Sapienza. Total Budget: ~ 900.000 Euro.

Organization of Scientific Meetings

2021 Organization of the 1st workshop on the progress of two-dimensional material (2DAY), Rome (Italy), 17/07/2021-18/11/2021. Website: https://2d-meeting.weebly.com/

2019 Member of the scientific committee of the Quantum Information and Measurement Conference of the Optical Society, Rome (Italy), 04/04/2019-06/04/2019. Website: https://www.osa.org/en-us/meetings/osa_meeting_archives/2019/quantum_information_and_measurement_/

2019 Organization of the 1st International School on "Quantum devices for non-classical light generation and manipulation" in Erice (Italy), 30/09/2019 – 05/10/2019. Website: http://qlight2019.eu/

2013 – 2019 Organization of the 1st, 3rd, 4th, 6th, 7th International Workshops EQEP "Engineering of Quantum Emitter Properties" in Austria, Ireland, Italy, Germany. Website of the last workshop: https://www.eqep-2019.tu-berlin.de/

Editorial/Review Activities and Membership of Societies

2020 – Associate Editor of Frontiers in Photonics, section Quantum Optics. https://www.frontiersin.org/journals/photonics/sections/quantum-optics#editorial-board

2016 – Expert evaluator of research project for the German Research Foundation (DFG)

2010 – Referee for the following journals: Nature Materials, Nature Photonics, Nature Communications, Physical Review Letters, Physical Revie X, Nano Letters, Reports on Progress in Physics, Advanced Quantum Technologies, Applied Physics Letters, Optica, Physica E, Europhysics Letters, Nanoscale Research Letters…

2012 – 2014 Guest Editor for Nanoscale Research Letters, Special Issue on the International Conference on Superlattices, Nanostructures, and Nanodevices. Website: Https://www.springeropen.com/collections/icsnn-2012

2017 – 2017 Referee for the "Prize for the Canada Center" of the University of Innsbruck (Austria)

2016 – 2017 Expert evaluator of research project for the European Union, Call FET OPEN RIA (H2020).

2009 – 2013 Member of the EU COST Action for the cooperation of European research groups. Action M08050 (Physics and Application of Dilute Nitride Semiconductors)

2018 – 2021 Member of the EU COST Action for the cooperation of European research groups. Action MP1403 (Nanoscale Quantum Optics)

2007 Member of the Italian Physical Society.

Patents

- A. Rastelli, I. Daruka, and R. Trotta „Vorrichtung zur mechanischen spannungsbeaufschlagung einer dünnschicht" EP3077328A1.

Selected invited Talks

(1)/ 2009 - Laboratory for Photonics and Nanostructures, LPN-CNRS, Paris (France).
Title: Hydrogen-assisted defect engineering in dilute nitride semiconductors

(2)/2010 - Institute for Magnetic and Electronic Materials (IMEM-CNR), Parma (Italy).
Title: Hydrogen-assisted defect engineering in dilute nitride semiconductors

(3)/2010 - E-MRS 2010 Spring Meeting - The European Material Conference. Strasbourg (France)
Title: Hydrogen-mediated nanostructuring of dilute nitride semiconductors

(4)/2011 - Collaborative Conference on 3D & Materials Research (CC3DMR) 2011, Jeju (Korea).
Title: Strain-tuneable quantum-dot devices.

(5)/2012 - DPG Spring Meeting of the Condensed Matter Section 2012, Berlin (Germany).
Title: Electro-elastic control of excitons in self-assembled quantum dots. Sito WEB:

(6)/2012 - International Conference on Superlattices, Nanostructures, and Nanodevices (ICSNN 2012) of the EPS, Dresden (Germany).
Title: Controlling artificial atoms in nanomembranes by the simultaneous application of large strain and electric fields. Sito Web:

(7)/2013 - Institute for Physics, Augsburg (Germany)
Title: High-fidelity entangled photons from strain-tunable optoelectronic devices

(8)/2013 - Annual Meeting of the Nanoscience Lab, Trento (Italia).
Title: Reshaping the optical properties of quantum dots via electro-elastic fields

(9)/2014 - 18th International Winterschool on New Developments in Solid State, Mauterndorf (Austria).
Title: Strain-tunable quantum-dot devices.

(10)/2014 - Heriot-Watt University, Edinburgh (UK)
Title: Semiconductor-Piezoelectric Quantum Dot Devices

(11)/2014 - Second International Conference of Young Researchers on Advanced Materials (IUMRS-ICYRAM 2014), Haikou (China).
Title: Semiconductor-Piezoelectric Quantum Dot Devices

(12)/2014 - Institute of Physics. The Chinese Academy of Sciences, Beijing (China)
Title: Semiconductor-Piezoelectric Quantum Devices

(13)/2014 - 2nd International Workshop on Engineering of Quantum Emitter Properties, Innsbruck University (Austria).
Title: Single and Entangled Photons from Semiconductor-Piezoelectric Quantum Dot Devices

(14)/2015 - Masaryk University BRNO (Czech Republic)
Title: Single and Entangled Photons from Semiconductor Quantum Dots

(15)/2015 - Masaryk University BRNO (Czech Republic)
Title: Semiconductor-Piezoelectric Quantum-Dot Devices for Quantum Networking

(16)/2015 - Department of Physics, University of Trento (Italy)
Title: Semiconductor-Piezoelectric Quantum Devices for Quantum Networking

(17)/2016 - University of Basel (Switzerland)
Title: Single and Entangled Photons from Strain-Tunable Quantum Dot Devices

(18)/2016 - III International Workshop on Metal Droplet Epitaxy of Semiconductor Nanostructures (DeWork3), Jeju (Korea).
Title: Mechanical control of excitons in GaAs quantum dots

(19)/2016 - Annual meeting of the Austrian Physical Society, Vienna (Austria).
Title: Scalable Sources of Entangled Photons based on Semiconductor Quantum Dots.

(20)/2016 - European Researchers' night, Parma (Italy).
Title: Nanostrutture "stessate": nuove sorgenti di luce quantistica.

(21)/2016 - 5th Quantum Innovators workshop, Institute for Quantum Computing (IQC) in Waterloo (Canada)
Title: Semiconductor-Piezoelectric Quantum-Dot Devices for Quantum Networking.

(22)/2016 - 4th International Workshop on Engineering of Quantum Emitter Properties, Cork (Ireland).
Title: Scalable Sources of Indistinguishable Entangled Photons from Quantum Dots

(23)/2017 - UK Quantum Dot Day, Edinburgo (UK).

Title: Scalable Sources of Indistinguishable Entangled Photons from Quantum Dots.

(24)/2017 - DPG Spring Meeting of the Condensed Matter Section 2017, Berlin (Germany).
Title: Strain-tunable quantum dots interfaced with atomic vapors.

(25)/2017 - KTH Stockholm (Sweden)
Title: Towards scalable sources of entangled photons based on strain-engineered quantum dots

(26)/2017 - CeNS Workshop 2017 "Design and Control of NanoSystems", Venice (Italy).
Title: Strain-engineered artificial atoms for quantum nanophotonics.

(27)/2017 - 5th International Workshop on Engineering of Quantum Emitter Properties, Waterloo (Canada).
Title: Advanced Quantum Optics with GaAs Quantum Dots

(28)/2018 - Heraeus-Seminar on Quantum Networks, Bad Honnef (Germany).
Title: GaAs Quantum Dots for Quantum Networking.

(29)/2018 - DTU, Department of Photonics Engineering, Copenhagen (Denmark).
Title: GaAs Quantum Dots for Quantum Networking

(30)/2018 - University of Rome Tor Vergata, Physics Department (Italy)
Title: Towards scalable sources of entangled photons based on quantum dots

(31)/2019 - Winter School on “Quantum Dots: from growth to fundamental properties”, Wuerzburg (Germany).
Title: Towards Entanglement Distribution with Photons from Quantum Dots.

(32)/2019 - 2nd International Symposium on "Single Photon based Quantum Technologies", Berlin (Germania).
Title: Quantum teleportation and entanglement swapping with

(33)/2019 - The 2019 Frontiers in Quantum Materials and Devices workshop, Tokyo (Japan).
Title: Quantum Teleportation and Entanglement Swapping with Photons from an Artificial Atom.

(34)/2019 - PIERS 2019 Photonics & Electromagnetics Research Symposium, Rome (Italy)
Title: Quantum Teleportation and Entanglement Swapping with Photons from an Artificial Atom.

(35)/2019 - 7th International Workshop on Engineering of Quantum Emitter Properties, Berlin (Germany)
Title: Quantum Teleportation and Entanglement Swapping with Photons from an Artificial Atom.

(36)/2020 - Tyndall National Institute, Cork (Ireland)
Title: Quantum Communication with Entangled Photons from Quantum Dots

(37)/2020 - Condensed Matter General conferences, European Physcial Society, CMD2020GEFES, Strain in Metal-Halide Perovskites and other Emerging Nanomaterials, Madrid (Spain)
Title: Site-controlled and energy-tuneable single-photon sources in two-dimensional materials

(38)/2020 - Summer School on "Quantum Dots for Photonic Quantum Information Technologies", Copenhagen, (Denmark)
Title: Playing with entangled photons from semiconductor quantum dots.

(39)/2021 - Center for Nanoscience and Nanotechnology, C2N, Palaiseau (France)
Title: Towards Quantum Communication with Entangled Photons from Quantum Dots.

(40)/2021 - 8th International Workshop on “Epitaxial Growth and Fundamental Properties of Semiconductor Nanostructures”, Semiconnano2021, Milan (Italy)
Title: Towards Quantum Communication with Entangled Photons from Quantum Dots.

(41)/2021 - Palacky University Olomouc, Faculty of Science, Olomouc, (Czech Republic)
Title: Towards Quantum Communication with Entangled Photons from Quantum Dots.

(42)/2021 - VI International Conference on Quantum Information and Measurement (QIM) of the Optical Society, Online event
Title: Quantum Communication with Entangled Photons from Quantum Dots

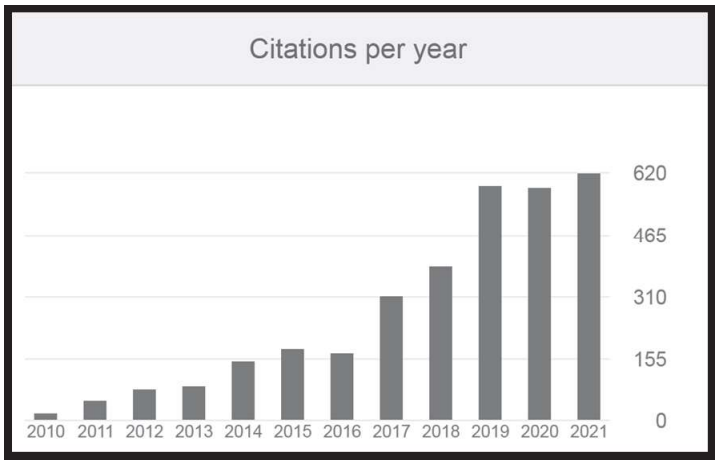
Citation Report

105 publications in scientific journals (see the next page for the full list of publications)

33 publications in Scientific Journals with impact factor > 7
(Including 7 publications in Phys. Rev. Lett and 11 publications in Nature and Science Journals)

Total number of citations 3297 (data from Google Scholar, 16.11.2021)

H-Index: 32 (data from Google Scholar, 16.11.2021)



Full list of Publications

(in chronological order, † indicates corresponding authorship)

Publications in peer-reviewed journals

2021

[105] G. Carvacho, E. Roccia, M. Valeri, F. Basso Basset, D. Poderini, C. Pardo, E. Polino, L. Carosini, M. B Rota, J. Neuwirth, S. F Covre da Silva, A. Rastelli, N. Spagnolo, R. Chaves, **R. Trotta**†, and F. Sciarrino
Quantum violation of local causality in urban network with hybrid photonic technologies
arXiv:2109.06823 (2021)

[104] J. Neuwirth, F. Basso Basset, M. B. Rota, E. Roccia, C. Schimpf, K. D. Jöns, A. Rastelli, and **R. Trotta**†
Quantum dot technology for quantum repeaters: from entangled photon generation towards the integration with quantum memories
arXiv:2104.07076 (2021)

[103] I. R. Jahromi, G. Juska, S. Varo, F. Basso Basset, F. Salusti, **R. Trotta**, A. Gocalinska, F. Mattana, and E. Pelucchi
Optical properties and symmetry optimization of spectrally (excitonically) uniform site-controlled GaAs pyramidal quantum dots
Applied Physics Letters 118, 073103 (2021)

[102] S. F. Covre De Silva, G. Undeutsch, B. Lehner, S. Manna, T. M Krieger, M. Reindl, C. Schimpf, **R. Trotta**, and Armando Rastelli
GaAs quantum dots grown by droplet etching epitaxy as quantum light sources
Applied Physics Letters 119, 120502 (2021)

[101] H. Huang, D. Csontosová, S. Manna, Y. Huo, **R. Trotta**, A. Rastelli, and P. Klenovský
Electric field induced tuning of electronic correlation in weakly confining quantum dots
Physical Review B 104, 165401 (2021)

[100] C. Schimpf, M.Reindl, F. Basso Basset, K. D Jöns, **R. Trotta**, and A. Rastelli
Quantum dots as potential sources of strongly entangled photons: Perspectives and challenges for applications in quantum networks
Applied Physics Letters 118 (10), 100502 (2021)

[99] F. Basso Basset, M. Valeri, E. Roccia, V. Muredda, D. Poderini, J. Neuwirth, N. Spagnolo, M. B. Rota, G. Carvacho, F. Sciarrino, and **R. Trotta**†.
"Quantum key distribution with entangled photons generated on-demand by a quantum dot"
Science Advances, in press. (2021)

[98] F. Basso Basset, F. Salusti, L. Schweickert, M. B. Rota, D. Tedeschi, S. F. Covre da Silva, E. Roccia, V. Zwiller, K. D Jöns, A. Rastelli, and **R. Trotta**†
„ Quantum Teleportation with Imperfect Quantum Dots "
npj Quantum Information 7 (2021) - https://www.nature.com/articles/s41534-020-00356-0

2020

[97] S. Manna, H. Huang, S. Filipe Covre da Silva, C. Schimpf, M. B Rota, B. Lehner, M. Reindl, **R. Trotta**, and A. Rastelli
„ Surface passivation and oxide encapsulation to improve optical properties of a single GaAs quantum dot close to the surface"
Applied Surface Science 532, 147360 (2020)

[96] L. Hanschke, L. Schweickert, J. C. López Carreño, E. Schöll, K. D Zeuner, T. Lettner, E. Zubizarreta Casalengua, M. Reindl, S. Filipe Covre da Silva, **R. Trotta**, J. J Finley, A. Rastelli, E.Del Valle, F. P Laussy, V. Zwiller, K. Müller, and K. D Jöns
„ Origin of Antibunching in Resonance Fluorescence"
Phys. Rev. Lett. 125, 170402 (2020)

[95] E. Schöll, L. Schweickert, L. Hanschke, K. D Zeuner, F. Sbresny, T. Lettner, R. Trivedi, M. Reindl, S. Filipe Covre da Silva, **R. Trotta**, J. J Finley, J. Vučković, K. Müller, A. Rastelli, V.l Zwiller, and K. D Jöns
„ Optomechanical tuning of the polarization properties of micropillar cavity systems with embedded quantum dots"
Phys. Rev. Lett. 125, 233605 (2020)

[94] S. Gerhardt, M. Moczała-Dusanowska, Ł. Dusanowski, T. Huber, S. Betzold, J. Martín-Sánchez, **R. Trotta**, A. Predojević, S. Höfling, and C. Schneider
„ Optomechanical tuning of the polarization properties of micropillar cavity systems with embedded quantum dots"
Phys. Rev. B 101, 245308 (2020)

[93] M. B. Rota, F. B. Basset, D. Tedeschi, and **R. Trotta**†
„ Entanglement teleportation with photons from quantum dots: towards a solid-state based quantum network"
IEEE Journal of Selected Topics in Quantum Electronics 26, 6400416 (2020)

[92] M. De Luca, X. Cartoixa, D. Indolese, J. Martín-Sánchez, K. Watanabe, T. Taniguchi, C. Schoenenberger, **R. Trotta**, R. Rurali, and I. Zardo
„ Experimental demonstration of the suppression of optical phonon splitting in 2D materials by Raman spectroscopy"
2D Materials 7 (2), 025004 (2020)

[91] M. De Luca, X. Cartoixà, J. Martín-Sánchez, M. López-Suárez, **R. Trotta**, R. Rurali, and I. Zardo
„New Insights in the lattice dynamics of monolayers, bilayers, and trilayers of WSe2 and unambiguous determination of few layer-flakes' thickness"
2D Materials 7 (2), 025004 (2020)

2019

[90] O. Iff, D. Tedeschi, J. Martin-Sanchez, M. Moczala-Dusanowska, S. Tongay, J. Taboada-Gutierrez, M. Savaresi, A. Rastelli, P. Alonso-Gonzalez, S. Hoefling, **R. Trotta**†, and C. Schneider
„Strain-tunable Single Photon Source in WSe2 Monolayer"
Nano Letters 19, 6931 (2019)

[89] **R. Trotta**†
"One, Two, Three, Many"
Nature Materials 18, 916 (2019)

[88] M. Moczala-Dusanowska, L. Dusanowski, S. Gerhardt, Y. M. He, M. Reindl, A. Rastelli, **R. Trotta**, N. Gregersen, S. Hoefling, and C. Schneider
„Strain-tunable Single Photon Source Based on a Quantum Dot-Micropillar System"
ACS Photonics 6, 2025 (2019)

[87] X. Yuan, M. Schwendtner, **R. Trotta**, Y. Huo, J. Martín-Sánchez, G. Piredda, H. Huang, J. Edlinger, C. Diskus, O. G. Schmidt, B. Jacoby, H. J. Krenner, and A. Rastelli
„ A frequency-tunable nanomembrane mechanical oscillator with embedded quantum dots"
Appl. Phys. Lett. 115, 181902 (2019)

[86] T. Kroh, J. Wolters, A. Ahlrichs, A. W. Schell, A. Thoma, S. Reitzestein, J. S. Wildmann, E. Zallo, **R. Trotta**, A. Rastelli, O. G. Schmidt, and O. Benson
„Slow and fast light behavior of single photons from a quantum dot interacting with the excited state hyperfine structure of the Cesium D1-line"
Scientific Reports 9, 13728 (2019)

[85] C. Schimpf, M. Reindl, P. Klenovsky, T. Fromherz, S. F. Covre da Silva, J. Hofer, **R. Trotta**, and A. Rastelli
„Resolving the temporal evolution of line broadening in single quantum emitters"
Optics Express 27, 35290 (2019)

[84] M. Reindl, J. H. Weber, D. Huber, C. Schimpf, S. F. Covre da Silva, S. Poralupi, **R. Trotta**, P. Michler, and A. Rastelli
„Highly indistinguishable single photons from incoherently and coherently excited GaAs quantum dots"
Phys. Rev. B 100, 155420 (2019)

[83] F. Basso Basset, M. B. Rota, C. Schimpf, D. Tedeschi, K. D. Zeuner, S. F. Covre da Silva, V. Zwiller, K. D. Joens, A. Rastelli, and **R. Trotta**†
„Entanglement swapping with photons generated on-demand by a quantum dot"
Phys. Rev. Lett. 123, 160501 (2019)

[82] H. M. G. A. Tholen, J. S. Wildmann, A. Rastelli, **R. Trotta**, C. E. Pryor, E. Zallo, O. G. Schmidt, P. M. Koenraad, and A. Yu. Silov
„Active tuning of the g-tensor in InGaAs/GaAs quantum dots via strain"
Phys. Rev. B 99, 195305 (2019)

[81] E. Schöll, L. Hanschke, L. Schweickert, K. D. Zeuner, M. Reindl, S. Filipe Covre da Silva, T. Lettner, **R. Trotta**, J. J. Finley, K. Müller, A. Rastelli, V. Zwiller, and K. D. Jöns
„Resonance fluorescence of GaAs droplet epitaxy quantum dots with near–unity photon indistinguishability"
Nano Letters 19, 2404 (2019)

[80] G. Piredda, S. Stroj, D. Ziss, J. Stangl, **R. Trotta**, J. Martin-Sanchez, and A. Rastelli
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