CURRICULUM VITAE

PERSONAL DATA

Name : Enrique Solano

Date of Birth : 8 September, 1964

Place of Birth : Lima, Peru

Nationality : Peruvian and Spanish

Permanent scientific address :

Prof. Enrique Solano

Department of Physical Chemistry,

University of the Basque Country,

Apartado 644, 48080 Bilbao,

Spain

Telephone (Office) : +34-946012530

E-mail : enr.solano@gmail.com

LANGUAGES

Spanish: native.

English, Portuguese, French, and German: high level.

STUDIES AND DEGREES

1) Studies of Mechanical Engineering, Pontificia Universidad Católica del Perú, Lima, Peru (1981-1986).

2) Bachelor in Physics, Pontificia Universidad Católica del Perú, Lima, Peru (1991).

3) Studies in Maîtrise of Université Pierre et Marie Curie (Paris VI), Paris, France (1992-1993).

4) Master in Physics, Pontificia Universidad Católica del Perú, Lima, Peru (1996).

5) PhD in Physics, Universidade Federal de Rio de Janeiro, Rio de Janeiro, Brazil (December 2000).

AFFILIATIONS

1) PhD position in Instituto de Física of Universidade Federal de Rio de Janeiro, Brazil (1997-2000).

2) Professor of Physics at Pontificia Universidad Católica del Perú, Lima, Peru (2001-2008).

3) Researcher at Max-Planck Institute for Quantum Optics, Laser Physics Division, Garching, Germany (January 2001-March 2003).

4) Researcher at Max-Planck Institute for Quantum Optics, Theory Division, Garching, Germany (April 2003 - June 2006).

5) Researcher at Ludwig-Maximilian University (LMU), Condensed Matter Physics Department, Munich, Germany (July 2006 - April 2008).

6) Affiliate Researcher at Institute of Quantum Computing (IQC), Waterloo, Canada (2006 - now).

7) Extraordinary Member of Centre for Nanoscience (CeNS), Munich, Germany (2006-2009).

8) Ikerbasque Professor at University of the Basque Country, Bilbao, Spain (May 2008-now).

9) Distinguished Professor at Shanghai University, Shanghai, China (Jan 2018-now).

AWARDS, PRIZES, and VISITING PROFESSORSHIPS

9) Honorary Visiting Professorship at University of Shanghai, Shanghai, China (April 2013 - March 2016).

10) Visiting Professor at Macquarie University, Sydney, Australia (July-August 2013).

11) Visiting Professor at UC Berkeley, CA, USA (July-August 2014).

12) PhD Honoris Causa given by "Universidad Ricardo Palma", Lima, Peru (April 2015).

13) August-Wilhelm Scheer Visiting Professor at Walther-Meissner Institute, Garching, Germany (June-October 2015).

14) Honorary Fellow of the Institute for Advanced Study of the Technical University of Munich, Garching, Germany (June-October 2015).

15) Prize "Ambassador of Science and Technology 2018", Educational Center for Science and Technology (CEPRECYT), Lima, Peru (Jan 2018).

TEACHING EXPERIENCE

1) Lecturer of Physics courses at Universidad Ricardo Palma and Pontificia Universidad Católica del Perú, Lima, Peru (1989-1996).

2) Lecturer of Physics courses (Mechanics, Electricity and Magnetism, Electromagnetism and Optics) in the Faculty of Engineering and Physics at Pontificia Universidad Católica del Perú, Lima, Peru (1991-1996).

3) Lecturer of Physics courses in the Faculty of Communication Sciences at Universidad de Ciencias Aplicadas, Lima, Peru (1995-1996).

4) Teaching Assistant of undergraduate physics courses (Mathematics for Scientists, Classical Mechanics, Quantum Mechanics) at Ludwig-Maximilians-Universität, Munich, Germany (2006-2008).

5) Lecturer of "Quantum simulations and quantum technologies", Technical University of Munich, Munich, Germany (Jun-Oct 2015).

6) Lecturer of "Quantum technologies" course in Master of Quantum Information and Quantum Science, Bilbao, Spain (2011- now).

QUTIS RESEARCH GROUP

Quantum Technologies for Information Science (QUTIS)

University of the Basque Country, Bilbao, Spain

Group Leader

Prof. Enrique Solano (Ikerbasque Professor)

Group Website

www.qutisgroup.com

Research lines

1) Quantum Technologies

2) Quantum information

3) Quantum Optics

4) Quantum biomimetics

5) Quantum artificial intelligence

Present QUTIS Members

BACHELOR STUDENTS at QUTIS

Rodrigo Asensio, UPV/EHU (Sept 2016 - Aug 2017).

MASTER STUDENTS at QUTIS

Ibai Aedo (Sep 2016 - Aug 2017).

Miguel Peidro (Sep 2016 - Aug 2017).

Elena Lupo, University of Palermo, Italy (Apr 2017 - Oct 2017).

PHD STUDENTS at QUTIS

Laura García-Álvarez, UPV/EHU Grant (Jan 2014 - Dec 2017).

Xiao-Hang Cheng, Shanghai University, China (Sep 2015 - Aug 2018).

Íñigo Arrazola, Basque Government Grant (Jan 2016 - Dec 2019).

Adrian Parra-Rodriguez, Basque Government Grant (Jan 2017-Aug 2020).

Feng Hu, Shanghai University, China (Oct 2017 - Sept 2018).

Francisco Albarrán-Arriagada, Universidad de Santiago de Chile, Chile (Oct 2017 - Feb 2018).

Gabriel Alvarado-Barrios, Universidad de Santiago de Chile, Chile (Oct 2017 - Feb 2018).

POSTDOCTORAL RESEARCHERS at QUTIS

Dr. Mikel Sanz, Basque Government Grant (Apr 2013 - Mar 2019).

Unai Alvarez-Rodriguez, UPV/EHU Grant (Jan 2013-Sep 2017).

AFFILIATED RESEARCHERS and PROFESSORS at QUTIS

Dr. Lucas Lamata, Ramón y Cajal Researcher (Dec 2013 - Nov 2018).

Dr. Enrique Rico, Ikerbasque Fellow (Jan 2015 - Dec 2019).

Prof. Íñigo Egusquiza, UPV/EHU Professor (2010-present).

Past QUTIS Researchers and Alumni

BACHELOR STUDENTS

Laura García-Álvarez (Sep 2011 - Jul 2012).

Urtzi Las Heras (Sep 2011 - Jul 2012).

Íñigo Arrazola (Sep 2013 - Aug 2014).

Hodei Eneriz (Sep 2014 - Aug 2015).

Iker Millán (Sep 2015 - Aug 2016).

Amaia Irastorza (Sep 2015 - Aug 2016).

Cristián Romero-García (Sep 2015 - Aug 2016).

MASTER STUDENTS

Unai Alvarez-Rodriguez (Sep 2011 - Jun 2012).

Julen S. Pedernales (Sep 2011 - Jun 2012).

Laura García-Álvarez (Sep 2012 - Jul 2013).

Urtzi Las Heras (Sep 2012 - Jul 2013).

Paul Pfeiffer, Technical University of Munich, Germany (Mar 2014 - Feb 2015).

Íñigo Arrazola (Sep 2014 - Aug 2015).

Adrian Parra-Rodriguez (Sep 2015 - Aug 2016).

Hodei Eneriz (Sep 2015 - Aug 2016).

PHD STUDENTS

Jorge Casanova, Basque Government Grant (Jan 2009 - Dec 2012).

Fabio Vallone, CCQED EU Project (Jul 2011 - Feb 2012).

Simone Felicetti, CCQED EU Project (Mar 2012 - Dec 2015).

Roberto Di Candia, CCQED EU Project (Sept 2011 - Aug 2015).

Antonio Mezzacapo, SCALEQIT EU Project (Dec 2011 - Sep 2015).

Unai Alvarez-Rodriguez, Basque Government Grant (Jan 2013-Dec 2016).

Julen S. Pedernales, UPV/EHU Grant (Jan 2013 - Dec 2016).

Urtzi Las Heras, UPV/EHU Grant (Jan 2014 - Dec 2017).

POSTDOCTORAL RESEARCHERS

Dr. Daniel Ballester, SOLID EU project (Oct 2010 - Jun 2012).

Dr. Guillermo Romero, MICINN "Juan de la Cierva" Programme (Feb 2010 - Jan 2013), and PROMISCE EU Project (Feb 2013 - Mar 2015).

Dr. Jorge Casanova, PROMISCE EU Project (Feb 2013 - Mar 2015).

Dr. Lucas Lamata, Marie Curie EU Grant and SCALEQIT EU Project (May 2013 - Jan 2016).

Dr. Daniel Rossatto, Brazilian FAPESP Grant (Apr 2015 - Mar 2016).

ADVISORY and CO-ADVISORY of STUDENTS and POSTDOCS in PREVIOUS INSTITUTIONS

I present a list of students that I have advised (A) or co-advised (C) under the supervision of a principal investigator or chair.

1) Thomas Baier (A), Diplom Thesis "Decoherence and the Emergence of Classicality in Quantum Optics" (2002), Max-Planck-Institut for Quantum Optics (Garching, Germany), chair of Prof. Herbert Walther.

2) Pavel Lougovski (C), PhD Thesis "Quantum State Engineering and Reconstruction in Cavity QED: An Analytical Approach" (2004), Max-Planck-Institut for Quantum Optics (Garching, Germany), chair of Prof. Herbert Walther.

3) Christian Schön (C), PhD Thesis "Quantum Information Processing and Cavity QED" (2006), Max-Planck-Institut for Quantum Optics (Garching, Germany), Prof. Ignacio Cirac.

4) Robert Guzmán (C), PhD thesis "Information processing in quantum systems" (2004), Univ. de Santiago de Chile, Prof. Juan Carlos Retamal.

5) Carlos López (C), PhD thesis "Quantum information and collective systems" (2007), Universidad de Santiago de Chile, Prof. Juan Carlos Retamal.

6) Henning Christ (C), PhD thesis (2008), Max-Planck-Institut for Quantum Optics (Garching, Germany), Prof. Ignacio Cirac.

7) Ioana Serban (C), PhD thesis (2008), Institute of Quantum Computing (Waterloo, Canada), Prof. Frank Wilhelm.

8) Ydalia Delgado (A), Research Project "Sequential Quantum Cloning", Master student at Pontificia Universidad Católica del Perú (2007).

9) Lucas Lamata (C), PhD Thesis "Developments in Entanglement Theory and Applications to Relevant Physical Systems" (2007), CSIC Madrid, Dr. Juan León.

10) Alejandro Bermúdez (C), PhD student at Universidad Complutense de Madrid, Prof. Miguel Ángel Martín-Delgado.

11) Matteo Mariantoni (C), PhD thesis (2009), Walther-Meissner-Institut (Garching, Germany), Prof. Rudolf Gross.

12) Frank Deppe (C), PhD thesis (2009), Walther-Meissner-Institut (Garching, Germany), Prof. Rudolf Gross.

13) Hamed Saberi (C), PhD thesis "Matrix-Product States for strongly-correlated systems and quantum information processing" (2009), Ludwig-Maximilian University (Munich, Germany), Jan von Delft.

14) Géraldine Haack (A), Diplom "Faster Gates for Quantum Computing and Simulations in Circuit QED" (2008), Ludwig-Maximilian University (Munich, Germany), Prof. Jan von Delft.

15) Barbara Englert (A), Diplom "Mesoscopic Shelving Readout of Superconducting Qubits in Circuit Quantum Electrodynamics" (2008), Ludwig-Maximilian University (Munich, Germany), Prof. Jan von Delft.

16) Guillermo Romero (C), PhD thesis (2009), Universidad de Santiago de Chile, Prof. Juan Carlos Retamal.

17) Matteo Bina (C), University of Milan (Milan, Italy), Prof. Federico Casagrande.

NATIONAL and INTERNATIONAL GRANTS at QUTIS

Grant "Quantum Science and Technology", University of the Basque Country UPV/EHU (Jan 2008 - Dec 2010): Prof. G. Muga (PI), Prof. E. Sherman, and Prof. E. Solano. 100,000 Euros.

Grant "Bibliography in Quantum Information, Science, and Technology", UPV/EHU (2009): Prof. G. Muga, Prof. E. Sherman, and Prof. E. Solano (PI). 10,000 Euros.

Start-up Grant Ikerbasque Foundation (May 2008 - Dec 2010):
Prof. E. Solano (PI). 25,000 Euros.

Grant "Superconducting Quantum Information Processor (EuroSQIP)", EU IP (May 2008 - Jan 2010): Prof. E. Solano (PI). 15,000 Euros.

Grant "Quantum Science and Technology (QST)" from Ministerio de Ciencia e Innovación (Jan 2010 - Dec 2012). Prof. G. Muga (PI). 100,000 Euros.

Grant "Solid-state systems for quantum information processing (SOLID)", EU grant (Jan 2010 - Sep 2013). Prof. E. Solano (PI). 220,000 Euros.

Grant "Quantum Information, Science, and Technology (QuInST)", Basque Government (Jan 2010 - Dec 2015). Prof. G. Muga (PI). 560,000 Euros.

Grant "Circuit and Cavity Quantum Electrodynamics (CCQED)", EU ITN Marie Curie (Jan 2011 - Dec 2014). Prof. E. Solano (PI). 510,000 Euros.

Grant "Quantum Propagating Microwaves in Strongly Coupled Environments (PROMISCE)", EU STREP (Apr 2012 - Mar 2015). Prof. E. Solano (PI). 300,000 Euros.

Grant "Scalable quantum processors for entangled quantum information technology (SCALEQIT)", EU STREP (Feb 2013 - Jan 2016). Prof. E. Solano (PI). 350,000 Euros.

Grant "Circuit quantum electrodynamics" from Spanish MINECO (Jan 2013 - Dec 2015). Prof. E. Solano (PI). 41,000 Euros.

Grant "Large-Scale Entanglement of Trapped Ions", Australian Research Council (ARC), (Jan 2013 - Dec 2015). Prof. D. Kielpienski, Prof. J. Hope, Prof. R. Blatt, and Prof. E. Solano. 100,000 Euros.

Grant "Quantum Information with Quantum Technologies" from Spanish MINECO (Jan 2016 - Dec 2018). Dr. Lucas Lamata and Prof. Enrique Solano (PI's). 106,000 Euros.

Grant "Quantum Information, Science, and Technology (QuInST)", Basque Government (Jan 2016 - Dec 2021). Prof. G. Muga (PI) . 800,000 Euros.

Grant "Heterogeneous Digital-Analog Quantum Dynamics Simulations (HDAQDS)", Department of Energy (USA) (Nov 2017 - Nov 2020). Dr. Pavel Lougovski (PI) . 3,000,000 Euros.

POSITIONS and FELLOWSHIPS at QUTIS

Grant for a PhD student (Jorge Casanova), Basque Government (Jan 2009 - Dec 2012). Prof. E. Solano (PI). 100,000 Euros.

Grant for a postdoctoral fellow (Dr. Guillermo Romero), "Juan de la Cierva" Grant (Feb 2010-Jan 2013). Prof. E. Solano (PI). 100,000 Euros.

Grant for a postdoctoral fellow (Dr. Lucas Lamata), IEF EU Marie Curie (May 2011 - Apr 2013). Prof. E. Solano (PI). 160,000 Euros.

Grant for posdoctoral fellow (Dr. Simone De Liberato), IEF EU Marie Curie (May 2013-May 2013). E. Solano (PI). In agreement with the PI and UPV/EHU host, the awarded fellow transferred the fellowship, to Southampton University, UK, where he accepted a permanent position.

Grant for a PhD student (Unai Alvarez-Rodriguez), Basque Government (Jan 2013 - Dec 2015). Prof. E. Solano (PI). 100,000 Euros.

Grant for a PhD student (Julen S. Pedernales), UPV/EHU (Jan 2013 - Dec 2016). Prof. E. Solano (PI). 100,000 Euros.

Grant for a PhD student (Laura García-Álvarez), UPV/EHU (Jan 2014 - Dec 2017). Prof. E. Solano (PI). 100,000 Euros.

Grant for a PhD student (Urtzi Las Heras), UPV/EHU (Jan 2014 - Dec 2017). Prof. E. Solano (PI). 100,000 Euros.

Grant for a master student (Paul Pfeiffer), German Ministry of Education and Research (Jan 2013 - Dec 2013). Prof. E. Solano (PI). 25,000 Euros.

Grant for Postdoctoral Fellow (Dr. Daniel Rossatto), Brazilian FAPESP (Apr 2015 - Mar 2016). Prof. E. Solano (PI). 50,000 Euros.

Grant for a PhD student (Xiao-Hang Cheng), Shanghai University (Sep 2015 - Aug 2017). 50,000 Euros.

Grant for a PhD student (Íñigo Arrazola), Basque Government (Jan 2016 - Dec 2019). Prof. E. Solano (PI). 100,000 Euros.

Grant for a PhD student (Adrian Parra-Rodriguez), Basque Government (Jan 2017 - Dec 2020). Prof. E. Solano (PI). 100,000 Euros.

Grant for a PhD student (Arturo García-Vesga), MINECO FPU (Oct 2017 - Oct 2021). 100,000 Euros.

Grant for Postdoctoral Fellow (Dr. Jie Peng), Chinese Scholar Council (Apr 2018 - Mar 2019). Prof. E. Solano (PI). 120,000 Euros.

GRANT APPLICATIONS in EVALUATION at QUTIS

Grant application for a PhD student (Miguel Peidro), Basque Government (Jan 2018 - Dec 2021). Prof. E. Solano (PI). 100,000 Euros.

Grant application for a PhD student (Ibai Aedo), UPV/EHU (Jan 2018 - Dec 2021). Prof. E. Solano (PI). 100,000 Euros.

ONGOING SCIENTIFIC COLLABORATIONS at QUTIS

Collaboration with Walther-Meissner Institute, Garching, Germany:
Dr. Kirill Fedorov, Dr. Frank Deppe, Dr. Achim Marx, and Prof. Rudolf Gross.

Collaboration with University of Chalmers, Sweden:
Dr. Jonas Bylander, Prof. Göran Johansson, Prof. Göran Wendin, and Prof. Per Delsing.

Collaboration with Universidad de Santiago de Chile (USACH):
Prof. Guillermo Romero, and Prof. Juan Carlos Retamal.

Collaboration with Augsburg Universität, Augsburg, Germany:
Dr. Daniel Braak.

Collaboration with Pontificia Universidad Católica del Perú, Lima, Peru:
Prof. Francisco De Zela.

Collaboration with CSIC, Madrid, Spain:
Dr. Carlos Sabín and Dr. Juan José García-Ripoll.

Collaboration with Ulm Universität, Germany:
Dr. Jorge Casanova and Prof. Martin Plenio.

Collaboration with Tsinghua University, Beijing, China:
Prof. Kihwan Kim.

Collaboration with ETH, Zürich, Switzerland:
Prof. Andreas Wallraff.

Collaboration with IBM, Zürich, Switzerland:
Dr. Stefan Filipp.

Collaboration with Institute for Quantum Computing (IQC), Waterloo, Canada: Prof. Chris Wilson.

Collaboration with University of Paris VII, France:
Dr. Simone Felicetti and Dr. Pérola Milman.

Collaboration with University of Rostock, Germany:
Prof. Alexander Szameit.

Collaboration with University of Tokyo, Tokyo, Japan:
Prof. Yasunobu Nakamura.

Collaboration with Shanghai University, China:
Prof. Chao Wang and Prof. Xi Chen.

Collaboration with University of Massachussets, Boston, USA:
Prof. Adolfo del Campo.

Collaboration with University of California San Diego, USA:
Prof. Massimiliano Di Ventra.

Colllaboration with University of Geneva, Switzerland:
Prof. Julian Sonner.

Collaboration with University of Bonn, Germany:
Prof. Martin Weitz.

Collaboration with University of KwaZulu-Natal, Durban, South Africa:
Dr. Maria Schuld and Prof. Francesco Petruccione.

Collaboration with Technical University of Delft, Delft, Netherlands:
Prof. Gary Steele.

Collaboration with University of Granada, Granada, Spain:
Prof. Daniel Rodriguez.

Colllaboration with Oak Ridge National Labs (ORNL), Oak Ridge, Tennessee, USA:
Dr. Pavel Lougovski.

Collaboration with Tsinghua University, Beijing, China:
Dr. Tao Xin and Prof. Gui-Lu Long.

Collaboration with BBN Raytheon, Boston, Massachusetts, USA:
Dr. Borja Peropadre.

Collaboration with University of Valencia, Valencia, Spain, USA:
Dr. Pablo Escandell-Montero and Prof. José D. Martín-Guerrero.

Collaboration with Universidade de São Carlos, São Carlos, Brazil:
Dr. Daniel Rossatto and Prof. Celso Villas-Bõas.

Collaboration with Zhejiang University, Hangzhou, China:
Prof. Qing-Hu Chen.

Collaboration with Chongqing University, Chongqing, China, and Australian National University, Canberra, Australia:
Prof. Murray Batchelor.

Collaboration with Oxford University, Oxford, United Kingdom:
Prof. Dieter Jacksch.

Collaboration with Xiangtan University, Hunan, China:
Dr. Jie Peng.

Collaboration with Max-Born Institute, Berlin, Germany:
Armando Pérez-Leija.

Collaboration with Massachusetts Institute of Technology (MIT), Cambridge, MA, USA:
Prof. Will Oliver, and Prof. Terry Orlando.

Collaboration with Google Inc. at University of Santa Barbara (UCSB), Santa Barbara, CA, and at Venice, CA, USA:
Dr. Rami Barends and Prof. John Martinis.

Collaboration with Materials Physics Center (MPC), San Sebastian, Spain:
Prof. Gabriel Molina-Terriza.

Collaboration with Barcelona Supercomputing Center (BSC), Barcelona, Spain:
Dr. Pol Forn-Díaz and Prof. José Ignacio Latorre.

Collaboration with Federal University of Goiás, Goiânia:
Prof. Lucas Céleri.

Collaboration with University of Bonn, Bonn, Germany:
Dr. Andrea Alberti.

Collaboration with Néel Institute, Grenoble, France:
Dr. Nicolas Roch.

Collaboration with Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany:
Prof. Alexei Ustinov.

Collaboration with Technical University of Vienna, Vienna, Austria:
Dr. Philipp Schneeweiss and Prof. Arno Rauschenbeutel.

CONFERENCES, INVITED TALKS, AND LECTURES

1) Summer School in High Energy Physics and General Relativity, International Center for Theoretical Physics (ICTP), Trieste, Italy (June-August 1991).

2) Colóquio Franco-Brasileiro da Interação Laser-Matéria, Rio de Janeiro, Brazil (January, 1996).

3) V Escola J. A. Swieca de Ótica Quântica e Não Linear, Rio de Janeiro, Brazil (January 1996).

4) VI Escola J. A. Swieca de Ótica Quântica e Não-Linear, São Carlos, São Paulo, Brazil (January 1998).

5) XXXI Latin-American School of Physics "New Perspectives on Quantum Mechanics", México D. F., México (July-August 1998).

6) I Encuentro de Física, Lima, Perú (January 1999). Oral presentation "Ultracold atoms interacting with a sinusoidal mode of a high-Q cavity".

7) Congresso Nacional de Matéria Condensada, São Lourenço, Minas Gerais, Brazil (May 1999). Oral presentation "Generation of Bell states in two trapped ions beyond the Lamb-Dicke limit".

8) International School in Quantum computing and quantum information theory at TMR, Torino, Italy (July 1999).

9) II Workshop Ótica Quântica e Descoerência in Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil (November 1999). Oral presentation "Teleportation of internal states in trapped ions".

10) I Workshop of Quantum Optics, Santiago de Chile, Chile (August 2000). Oral presentation "Quantum phase gate by means of a selective interaction in trapped ions".

11) Pan American Advanced Institute, School and Workshop on Chaos, decoherence and quantum entanglement, Ushuaia, Argentina (October 2000).

12) III Encuentro de Física, Lima, Perú (January 2001). Oral presentation "Selective interactions in cavity QED".

13) MPQ Group Meeting at Ringberg Castle, Rottach-Egern, Germany (February-March 2001).

14) Workshop "Coherent Evolution in Noisy Environments" (visitor and participant), Max Planck Institut für Physik komplexer Systeme, Dresden, Germany (April-May 2001). Poster presentation "Time-reversal dynamics for measuring decoherence in cavity QED".

15) CLEO/EUROPE-EQEC Focus Meeting 2001, Munich, Germany (June 2001).

16) Congress "Mysteries, Puzzles and Paradoxes in Quantum Mechanics", Gargnano, Garda Lake, Italy (August-September 2001). Oral presentation "Reconstruction of the Wigner function by means of a selective interaction in cavity QED".

17) MPQ Group Meeting at Ringberg Castle, Rottach-Egern, Germany (February-March 2002).

18) Spring Workshop in Atoms, Molecules, Quantum Optics and Plasma (AMOP) of the Deutsche Physikalische Gesellschaft (DPG), Osnabrück, Germany (March 2002). Oral presentation "Generalized Scrhödinger cat states in cavity QED".

19) IXth International Conference on Quantum Optics 2002 (ICQO 2002), Minsk, Belarus (May 2002). Invited talk "Strong-driving-assisted multipartite entanglement in cavity QED".

20) International Quantum Electronics Conference 2002 (IQEC 2002), Moscow, Russia (June 2002). Oral presentation "Motional reconstruction by means of selective interactions in trapped ions".

21) International Conference on Trapped Charged Particles and Fundamental Interactions (TCPFI 2002), Wildbad Kreuth, Germany, (August 2002). Poster presentation "Selective interactions in trapped ions and quantum logic".

22) I International conference of Peruvian scientists, Lima, Peru (January 2003). Organizer of the section of Fundamental Sciences and lecturer of the course "Quantum optics: generation of nonclassical states and quantum logic".

23) V Encuentro de Física, Lima Peru (January 2003). Invited talk "Solvable model of a strongly-driven micromaser".

24) MPQ meeting, Ringberg Castle, Rottach-Egern, Germany (May 2003).

25) 2nd RESQ (Resources for Quantum Information) Workshop, MPQ, Garching, Germany (May 2003). Local organizer.

26) Benasque Workshop in "Quantum information and communication", Benasque, Spain (June-July 2003).

27) Pan American Advanced Studies Institute and Workshop "Physics of Information", Búzios, Brazil (December 2003). Research visit and invited talk "Selective interactions in trapped ions: engineering, reconstruction, and quantum logic" in PASI Workshop.

28) 3rd RESQ Workshop, Institut des Ciències Fotòniques (ICFO), Barcelona, Spain (January 2004).

29) Workshop on Microcavities in Quantum Optics, Rottach-Egern, Germany (September 2004). Poster "Generation of field squeezing and atomic homodyning in cavity QED with atomic ensembles".

30) Isaac Newton Institute Workshop "Entanglement and transfer of quantum information", Cambridge University, Cambridge, United Kingdom (September 2004).

31) 4th RESQ Workshop and invited talk, Computer and Automation Research Institute of the Hungarian Academy of Science, Budapest, Hungary (May 2005).

32) Benasque Workshop in "Quantum information and communication", Benasque, Spain (June-July 2005).

33) German-US GDEST Workshop on "Quantum Information and Coherence", Munich, Germany (December, 2005).

34) Spring Meeting of the German Physical Society, keynote invited talk "Nonclassical states, Tomography, and Quantum Information in Circuit QED", Dresden, Germany (March 2006).

35) Workshop from European project EuroSQIP, Amsterdam, Netherlands (June 2006).

36) CeNS Workshop "Emerging Nanosystems – From Quantum Manipulation to Nanobiomachines", Venice, Italy (September 2006).

37) Workshop from European project EuroSQIP, Gothenburg, Sweden (November 2006).

38) Benasque Workshop in "Quantum information and communication", Benasque, Spain (June 2007).

39) International Conference on Quantum Information Processing and Communication, QIPC 2007, Barcelona, Spain (October 2007).

40) Workshop of European project EuroSQIP, Gothemburg, Sweden (May 2008).

41) Workshop of Ikerbasque Foundation, Bilbao, Spain (July 2008).

42) International Conference "Quantum Dynamics in Dots and Junctions: Coherent Solid State Systems", invited talk, Riva del Garda, Italy (October 2008).

43) International Conference "Quantum Optics IV", invited talk, Florianopolis, Brazil (October 2008).

44) Workshop CONSOLIDER Project, Universidad Autónoma, invited talk, Madrid, Spain (February 2009).

45) American Physical Society (APS) March Meeting, invited talk, Pittsburgh, USA (March 2009).

46) Organizer and speaker of "Conferencias sobre Información Cuántica y Computación Cuántica: Teoría y Aplicaciones" at Universidad Nacional Mayor de San Marcos, Lima, Peru (April 2009).

47) Nobel Symposium "Quantum bits for future quantum computers", Nobel Foundation, invited talk, Gothenburg, Sweden (May 2009).

48) International Workshop and School on "Solid State Based Quantum Information Processing", invited talk, Herrsching, Germany (July 2009).

49) Organizer of "International Workshop Quantum Information and Solid-State Systems", Bilbao, Spain (August 2009).

50) International Workshop "Atoms, Cavities, and Photons" at College de France, invited session chair, Paris, France (September 2009).

51) Lectures in Course "Quantum Optics and Quantum Information for Solid-State Physicists" in the PhD program at Chalmers University of Technology, Gothenburg, Sweden (October 2009).

52) "Seminario Científico Internacional", invited talk, Lima, Peru (January 2010).

53) "Encuentro Científico Internacional, invited talk, Lima, Peru (January 2010).

54) Organizer of "International SOLID Workshop", kick-off European project, Bilbao, Spain (January 2010).

55) Workshop "Quantum Effects in Biological Systems", Cambridge, MA, USA (June 2010).

56) Workshop "El impacto social de la ciencia, el papel de los medios de comunicación", Universidad del País Vasco, San Sebastián, Spain (August 2010).

57) SOLID Fall Workshop "Interfacing solid-state quantum information systems", Munich, Germany (October 2010).

58) Organizer of Workshop "Circuit QED for Quantum Information", Bilbao, Spain (November 2010).

59) Organizer of International Workshop "Quantum simulations", Benasque Center, Benasque, Spain (March 2011).

60) Workshop "Quantum Science and Technology", member of the Scientific Committee, Rovereto, Italy (May 2011).

61) Central European Workshop on Quantum Optics (CEWQO), invited talk and member of the Advisory Board, Madrid, Spain (June 2011).

62) Workshop "La responsabilidad social de la ciencia", Universidad del País Vasco, San Sebastián, Spain (August 2011).

63) CEA-EDF-INRIA School "Quantum Information, Measurement and Control", invited talk, Paris-Rocquencourt, France (November-December 2011).

64) Invited colloquium at "Jornada de Información Cuántica", Fundación Ramón Areces, Madrid, Spain (November 2011).

65) European Conference on Trapped Ions (ECTI), Scientific Committee member, Obergurgl, Austria (September 2012).

66) Workshop "Información Cuántica en España (ICE-0)", plenary talk, Madrid, Spain (September 2012).

67) Symposium "Frontiers in Quantum Physics", 60th Birthday of Rainer Blatt and Peter Zoller, Innsbruck, Austria (September 2012).

68) International Workshop on Quantum Coherence and Decoherence (IWQCD1), Lecturer, Cali, Colombia (September 2012).

69) Organizer of Workhsop on Quantum Simulations, Bilbao, Spain (October 2012).

70) IFF Spring School on Quantum Information, Lecturer, Jülich, Germany (February-March 2013).

71) Meeting of European Commission "Scientific Support to Policy Making: New Applications of Quantum Technologies for Computing, Communication, Metrology and Sensing", Brussels, Belgium (7 March 2013).

72) Workshop in Complex Quantum Systems, invited talk, Cartagena, Spain (8-12 April 2013).

73) Conference on Resonator QED, CCQED project, invited talk, Munich, Germany (9-13 September 2013).

74) Workshop "Quantum applications with trapped ions", invited talk, & Topical Group Discussion "Scalable trapped ion quantum systems", Harvard University, Cambridge, MA, USA (16-25 September 2013).

75) Benasque Workshop on Quantum Simulations, Organizer, Benasque, Spain (29 September - 4 October 2013).

76) Congreso Internacional de Computación y Telecomunicaciones, invited videconference, Lima, Peru (24 October 2013).

77) Conference "Quantum walks and quantum simulations", invited talk, Pisa, Italy (11-15 November 2013).

78) "DSTL Bristol Quantum Information Technologies" Workshop, session chair and panel discussion leader, Bristol, UK (25-27 Feb 2014).

79) Workshop on "Quantum Information with Trapped Ions", Organizer, bilateral event between the groups of Prof. Rainer Blatt (IQOQI) and Prof. Enrique Solano (UPV/EHU), Innsbruck, Austria (3-4 Apr 2014).

80) "Berge Fest" Workshop, on 60th Birthday and Scientific Contributions of Prof. Berthold-Georg Englert, invited talk, Center for Quantum Technologies (CQT), Singapore (22-25 Apr 2014).

81) "PhD School and Scientific meeting of EU ITN network CORINF on Correlated Multi-electron Dynamics in Intense Light Fields", Lecturer, Cargèse, France (27 Apr - 3 May 2014).

82) International Conference on Quantum Simulations, SETI, Mountain View, CA, USA (8-10 July 2014).

83) Workshop"Mathematics and Physics of Interacting Quantum Systems (MPIQS)", organizer and invited talk, Fukuoka, Japan (23-24 October 2014).

84) Forum "Math for Industry (FMfI)", invited talk, Fukuoka, Japan (27-31 October 2014).

85) International Winter School and Workshop on "Strongly correlated fluids of light and matter", invited talk, Trento, Italy (12-23 January 2015).

86) Organizer of International Workshop Quantum simulations, Benasque Center, Benasque, Spain (22-27 February 2015).

87) Conference on Resonator QED, invited talk, Munich, Germany (3-7 August 2015).

88) Encuentro Científico Internacional (ECI2016v), invited talk, Lima, Peru (January 2016).

89) ScaleQIT International Conference, invited talk, Delft, Netherlands (January 2016).

90) Solvay workshop on "Quantum Simulation with Cold Matter and Photons", invited talk, Brussels, Belgium (February 2016).

91) Workshop "Quantum simulations and many-body physics with light", invited talk, Chania, Greece (June 2016).

92) Summer School "Enrico Fermi" on "Quantum Simulators", lecturer, Varenna, Italy (21-25 Jul 2016).

93) Course on "Quantum Simulations", lecturer, CBPF, Rio de Janeiro, Brazil (15-17 Aug 2016).

94) School "Roberto A. Salmeron" on "Quantum Technologies with Superconducting Qubits", lecturer, Brasilia, Brazil (30 Aug - 2 Sep 2016).

95) Organizer of Workshop "Ultrastrong light-matter interactions", Bilbao, Spain (19-21 Sep 2016).

96) Workshop “Artificial intelligence and disruptive technologies”, invited talk, Geneva, Switzerland (21-22 Nov 2016).

97) Workshop “Quantum Technology”, invited talk, Gothenburg, Sweden (12-15 Dec 2016).

98) Summer School “Quantum Machine Learning”, lecturer, Drakensberg, South Africa (23-26 Jan 2017).

99) WE-Heraeus Seminar “Scalable Architectures for Quantum Simulation”, invited talk, Bad Honnef, Germany (29 Jan - 2 Feb 2017).

100) Conference on “Quantum Effects in Biological Systems (QUEBS)”, invited talk, Jerusalem, Israel (26-30 Mar 2017).

101) Capri School on “Solid-State Quantum Information Processing”, lecturer, Capri, Italy (23-30 Apr 2017).

102) Peruvian-French International Scientific Meeting, invited talk, Paris, France (21 Jul 2017).

103) Summer School on “Recent Trends in Light-Matter Interactions”, lecturer, Lausanne, Switzerland (4-8 Sep 2017).

104) Advanced School and Workshop on “Quantum Science and Quantum Technologies”, lecturer, Trieste, Italy (4-15 Sep 2017).

105) Les Houches Summer School on “Frontiers in Condensed Matter”, lecturer, Les Houches, France (18-29 Sep 2017).

106) Meeting of Peruvian Scientists in Europe (SINAPSIS), opening plenary talk, Berlin, Germany (5-7 Oct 2017).

107) International Conference of Computation and Telecommunication (COMTEL), lecturer and invited speaker, Lima, Peru (11-13 Oct 2017).

RESEARCH VISITS AND INVITED SEMINARS

1) Research visit to Rostock Universität, Rostock, Germany (Jul-Aug 1999).

2) Research visit to Max-Planck Institut für Quantenoptik, Garching, Germany (July 1999).

3) Research visit to Université de Liège, Belgium (January 2000).

4) Reearch visit to École Normale Supérieure de Paris, Paris, France (January-February 2000).

5) Invited seminar, Campinas University, Campinas, São Paulo, Brazil (November 2000).

6) Invited seminar, São Paulo University, São Paulo, São Paulo, Brazil (November 2000).

7) Invited seminar "Schrödinger cat paradox: theory and experiments", Pontificia Universidad Católica del Perú, Lima, Perú (Enero 2001).

8) Invited seminar "Schrödinger cat states in N trapped ions" in Potsdam Universität, Potsdam, Germany (April 2001).

9) Invited seminar "Selective reconstruction of the Wigner function in cavity QED" in München Universität, Munich, Germany (May 2001).

10) Invited seminar "Selective quantum logic in trapped ions" in Ulm Universität, Ulm, Germany (October 2001).

11) Research visit and invited seminar "Nonclassical states in strong driving assisted cavity QED" in École Normale Supérieure de Paris, Paris, France (January 2002).

12) Research visit and invited talk at Università degli Studi di Milano, Milano, Italy (September 2002).

13) Research visit and invited seminar in Federal University of Rio de Janeiro "Generation and purification of maximally entangled atomic states in optical cavities", Rio de Janeiro, Brazil (November 2003).

14) Research visit and invited seminar at Universidad Complutense de Madrid “Quantum Dot physics through generalized selective interactions in cavity QED and trapped ions”, Madrid, Spain (January 2004).

15) Research visit and invited seminar, ETH Zürich, “Quantum dot physics in trapped ions”, Zürich, Switzerland (March 2004).

16) Research visit and invited seminar in Innsbruck Universität, “Generalized selective interactions in trapped ions”, Innsbruck, Austria (March 2004).

17) Research visit and course “Tópicos modernos de óptica cuántica e información cuántica”, Universidad de Santiago de Chile, Santiago de Chile, Chile (June 2004).

18) Invited seminar “Selective interactions: quantum measurement and quantum logic”, Universidad Técnica Federico Santa María, Valparaíso, Chile (June 2004).

19) Research visit and course “Tópicos modernos de óptica cuántica e información cuántica”, Pontificia Universidad Católica del Perú, Lima, Peru (June 2004).

20) Research visit and invited seminar “Generation of squeeze operators in cavity QED with atomic ensembles”, Universidad Complutense, Madrid, Spain (November 2004).

21) Research visit and invited seminar “Measurement of field quadrature moments and entanglement with two-level probe”, École Normale Supérieure, Paris, France (February 2005).

22) Research visit, Universidad de Santiago de Chile, Santiago de Chile, Chile (March 2005).

23) Invited seminar“Sequential quantum factory”, Universidad de Concepción, Concepción, Chile (March 2005).

24) Research visit and course “ Óptica cuántica e información cuántica II”, Pontificia Universidad Católica del Perú, Lima, Peru (March 2005).

25) Research visit and invited talk"Quantum dot physics through generalized selective interactions", ICFO (Instituto de Ciencias Fotónicas), Barcelona, Spain (July 2005).

26) Research visit, Université de Liège, Liège, Belgium (September 2005).

27) Research visit, Universidad de Barcelona, Barcelona, Spain (November 2005).

28) Research visit and invited talk "Selective interactions", CSIC (Consejo Superior de Investigación Científica) and Universidad Complutense de Madrid, Madrid, Spain (November-December 2005).

29) Research visit and invited seminar "Sequential generation of multiatomic states in 3D microwave cavities", École Normale Supérieure, Paris, France (February 2006).

30) Research visit and invited talk "Instantaneous measurements in cavity QED and trapped ions", IQC (Institute of Quantum Computing), Waterloo, Canada (April 2006).

31) Research visit to MIT (Massachusetts Institute of Technology), Cambridge, Massachusetts, USA (May 2006).

32) Research visit to Harvard University, Cambridge, Massachusetts, USA (May 2006).

33) Research visit to Yale University, New Haven, USA (May 2006).

34) Research visit to Consejo Superior de Investigación Científica (CSIC) and Universidad Complutense de Madrid, Madrid, Spain (June 2006).

35) Research visit to Erlangen University, Erlangen, Germany (October 2006).

36) Research visit and invited talk "Quantum Homodyne Measurements in the Microwave Domain", SPEC-CEA, Saclay, France (November 2006).

37) Research visit to Milan University, Milan, Italy (December 2006).

38) Research visit to SPEC-CEA, Saclay, France (January 2007).

39) Research visit and invited talk “Dirac Equation and Relativistic Effects in a Single Trapped Ion”, Universidad de Barcelona, Barcelona, Spain (January 2007).

40) Research visit to Consejo Superior de Investigación Científica (CSIC), Madrid, Spain (February 2007).

41) Research visit to Universidad Complutense de Madrid, Madrid, Spain (February 2007).

42) Research visit to Universidad de Santiago de Chile, Santiago, Chile (March 2007).

43) Research visit, organization, and speaker in “Ciclo de Conferencias en Información Cuántica y Simulación en Sistemas Físicos”, Pontificia Universidad Católica del Perú, Lima, Peru (March 2007).

44) Research visit to Universidad Complutense de Madrid, Madrid, Spain (April 2007).

45) Research visit to Consejo Superior de Investigación Científica (CSIC), Madrid, Spain (Mayo 2007).

46) Research visit to Erlangen University, Erlangen, Germany (July 2007).

47) Invited talk “Simulating a Quantum-Relativistic Electron in a Single Trapped Ion”, Regensburg University, Regensburg, Germany (July 2007).

48) Research visit to Consejo Superior de Investigación Científica (CSIC) and Universidad Complutense de Madrid, Spain (September 2007).

49) Research visit to Regensburg University, Regensburg, Germany (January 2008).

50) Research visit to École Polytechnique Fédérale de Lausanne, Switzerland (February 2008).

51) Research visit to SPEC-CEA, Saclay, and École Normale Supérieure, Paris, France (March 2008).

52) Research visit to Mathematics Department, Universidad Complutense and CSIC, Madrid, Spain (March 2008).

53) Research visit to Ludwig-Maximilian University, Munich, Germany (May 2008).

54) Research visit to Walther-Meissner Institute, Garching, Germany (June 2008).

55) Research visit to Consejo Superior de Investigación Científica (CSIC), Madrid, Spain (August 2008).

56) Research visit to Royal Holloway University, London, United Kingdom (September 2008).

57) Invited Colloquium at "Linneaus Center for Engineered Quantum Systems", University of Chalmers, Gothenburg, Sweden (November 2008).

58) Research visit to Regensburg University, Regensburg Germany (December 2008).

59) Invited talk at Karlsruhe University, Karlsruhe, Germany (February 2009).

60) Invited talk at Innsbruck University, Innsbruck, Austria (February 2009).

61) Research visit and invited talk at Universidad Nacional Mayor de San Marcos, Lima, Peru (April 2009).

62) Research visit and invited talk at Pontificia Universidad Católica del Perú, Lima, Peru (April 2009).

63) Invited talk at "Colegio de Ingenieros del Perú", Lima, Peru (April 2009).

64) Research visit and invited talk at Consejo Superior de Investigación Científica (CSIC), Madrid, Spain (May 2009).

65) Research visit to Walther-Meissner Institute, Garching, Germany (July 2009).

66) Research visit and invited talk at Milan University, Milan, Italy (July 2009).

67) Research visit to University of Innsbruck, Innsbruck, Austria (July 2009).

68) Research visit to SPEC-CEA, Saclay, and École Normale Supérieure, Paris, France (September 2009).

69) Research visit to Chalmers University of Technology, Gothenburg, Sweden (October 2009).

70) Research visit to Consejo Superior de Investigación Científica (CSIC), Madrid, Spain (Oct-Nov 2009).

71) Research visit to Innsbruck University, Innsbruck, Austria (Nov 2009).

72) Research visit to Walther-Meissner Institut, Garching, Germany (Nov 2009).

73) Research visit and invited talk at Innsbruck University, Innsbruck, Austria (March 2010).

74) Research visit to Walther-Meissner Institut, Garching, Germany (March 2010).

75) Research visit and invited talk to University Paul Sabatier, Toulouse, France (March 2010).

76) Research visit and invited talk at CSIC, Madrid, Spain (April 2010).

77) Research visit and invited talk at DPIC, San Sebastián, Spain (April 2010).

78) Research visit to Harvard University, Cambridge, MA, US (Junel 2010).

79) Research visit to CEA-Saclay, Paris, France (September 2010).

80) Research visit to Walther-Meissner Institut, Garching, Germany (October 2010).

81) Research visit to Innsbruck University, Innsbruck, Austria (October 2010).

82) Invited talk and research visit to Pontificia Universidad Católica del Perú, Lima, Perú (December 2010).

83) Invited talk and research visit to University of Zaragoza, Zaragoza, Spain (January 2011).

84) Invited talk and research visit to University "Johannes Gutenberg", Mainz, Germany (March 2011).

85) Research visit to Harvard University, Cambridge, MA, US (April 2011).

86) Invited talk and research visit to Oxford University, Oxford, UK (August 2011).

87) Research visit to Bristol University, Bristol, UK (August 2011).

88) Invited talk and research visit to Imperial College, London, UK (August 2011).

89) Invited talk at SOLID Workshop, Grenoble, France (February 2012).

90) Research visit to Walther-Meissner Institut, Garching, Germany (March-April 2012).

91) Research visit and invited colloquium at Sapienza Università di Roma, Italy (April 2012).

92) Research visit and invited talk at CSIC, Madrid, Spain (May 2012).

93) Research visit and invited talk at Freie Universität, Berlin, Germany (July 2012).

94) Research visit and invited talk at Massachusetts Institute of Technology (MIT), Boston, USA (July-August 2012).

95) Research visit and invited talk at Princeton University, Princeton, USA (August 2012).

96) Research visit and invited colloquium at Yale University, New Haven, USA (August 2012).

97) Research visit and invited talk at BBN Raytheon, Boston, USA (August 2012).

98) Research visit and invited Colloquium at Pontificia Universidad Católica del Perú, Lima, Peru (October 2012).

99) Invited colloquium at TEDx Tukuy, Lima, Peru (October 2012).

100) Invited colloquium at BTEK Bizi Teknologia, Bilbao, Spain (October 2012).

101) Invited colloquium at Instituto de Telecomunicações, Lisboa, Portugal (December 2012).

102) Invited talk at École Normale Supérieure, Paris, France (January 2013).

103) Invited colloquium at DIPC, "Mestizajes" Programme, San Sebastián, Spain (March 2013).

104) Invited talk at University of Tokyo, Japan (March 2013).

105) Invited colloquium at University of Shanghai, China (April 2013).

106) Invited colloquium at IIIS, University of Beijing, China (April 2013).

107) Invited colloquium at Bonn University, Bonn, Germany (16 April 2013).

108) Research visit to Walther Meissner Institute (WMI), Garching, Germany (17-19 April 2013).

109) Research visit and colloquium in Ulm University, Ulm, Germany (6-7 May 2013).

110) Research visit to CQT, Singapore (12-18 July 2013).

111) Research visit and invited colloquium at Macquarie University, Sydney, Australia (18 July - 19 August 2013).

112) Research visit to University of New South Wales (UNSW), Sydney, Australia (18 July - 19 August 2013).

113) Research visit and invited colloquium at University of Queensland, Brisbane, Australia (3-10 August 2013).

114) Research visit and invited colloquium at Griffiths University, Brisbane (7 August 2013).

115) Research visit and invited colloquium at Granada University, Granada, Spain (2-4 September 2013).

116) German School, invited conference for advanced students, Bilbao, Spain (3 Dec 2013).

117) Research visit to Walther Meissner Institute (WMI), Garching, Germany (5-7 Feb 2014).

118) Research visit to University of Saarbrücken, Saarbrücken, Germany (10-12 Feb 2014).

119) Research visit and invited colloquium at Institute for Quantum Computing (IQC), Waterloo, Ontario, Canada (10-14 Mar 2014).

120) Research visit and invited colloquium at Palacky University, Olomouc, Czech Republic (19-21 Mar 2014).

121) Research visit to Walther Meissner Institute (WMI), Garching, Germany (26-28 Mar 2014).

122) Research visit and invited talk at Center for Quantum Technologies (CQT), Singapore (14-21 Apr 2014).

123) Research visit and invited colloquium at "Vienna Center for Quantum Science and Technology", Vienna, Austria (12-14 May 2014).

124) Research visit to Walther Meissner Institute (WMI), Garching, Germany (15-16 May 2014).

125) Visiting professor and invited colloquium at UC Berkeley, CA, USA (25 Jun - 10 Aug 2014).

126) Research visit and invited colloquium at University of California Santa Barbara (UCSB), CA, USA (30 Jun - 7 Jul 2014).

127) Research visit and invited talk at NASA Ames, Mountain View, CA, USA (17 July 2014).

128) Invited talk at "Quantum Computer Seminar" at Hacker Dojo, Mountain View, CA, USA (31 Aug 2014).

129) Research visit and invited colloquium at Pontificia Universidad Católica del Perú, Lima, Peru (19-29 Aug 2014).

130) Invited colloquium at Universidad Ricardo Palma (URP), Lima, Peru (26 Aug 2014).

131) Invited colloquium at Universidad Inca Garcilaso de la Vega (UIGV), Lima, Peru (28 Aug 2014).

132) Invited talk at University of Tokyo, Tokyo, Japan (4 Nov 2014).

133) Research visit to Walther-Meissner Institute, Garching, Germany (9-13 Feb 2015).

134) Research visit to Google Inc. and UCSB, Santa Barbara and Los Angeles, CA, USA (8-25 Aug 2015).

135) Research visit to Walther-Meissner Institute, Garching, Germany (15 Sept - 15 Oct 2015).

136) Invited talk at excellence programme "Exploring Quantum Matter", Munich, Germany (2 Oct 2015).

137) Research visit to IBM, Yorktown Heights, New York, USA (1-4 Dec 2015).

138) Research visit and invited talk to D-Wave Systems, Vancouver, Canada (7 Dec 2015).

139) Research visit to EPSRC, Swindon, UK (15-18 Dec 2015).

140) Research visit to CEPRECYT, Lima, Peru (26 Dec 2015 - 4 Jan 2016).

141) Research visit to Free University of Berlin, Germany (4-5 Feb 2016).

142) Research visits and invited talks, IBM and ETH, Zürich, Switzerland (23-26 Feb 2016).

143) Research visit to Walther-Meissner Institute, Garching, Germany (3-4 Mar 2016).

144) Research visit to Free University of Berlin, Germany (19 Mar - 2 Apr 2016).

145) Research visit and invited talk at University of Massachusetts (UMass), Boston, USA (19 Jun - 30 Jun 2016).

146) Research visit and invited talk at Harvard University, Cambridge, Massachussets, USA (1 Jul - 17 Jul 2016).

147) Research visit and invited talk at MIT, Cambridge, Massachussets, USA (29 Jun 2016).

148) Research visit and invited talk at Universidade Federal Fluminense, Niterói, Brazil (23 Aug 2016).

149) Research visit and invited talk at Universidade Federal de Rio de Janeiro, Rio de Janeiro, Brazil (25 Aug 2016).

150) Research visit and invited colloquium at Max-Born Institute, Berlin, Germany (26 Oct 2016).

151) Research visit to University of KwaZulu-Natal, Durban, South Africa (19-20 Jan 2017).

152) Research visit to Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany (2-3 Feb 2017).

153) Research visit to Tel Aviv University, Tel Aviv, and The Hebrew University of Jerusalem, Jerusalem, Israel (22-31 Mar 2017).

154) Research visit to Complutense University of Madrid, invited seminar, Madrid, Spain (16-19 May 2017).

155) Research visit to Rostock University, invited seminar, Rostock, Germany (17 Jul 2017).

156) Research visit to Google Inc. at University of Santa Barbara (UCSB), Santa Barbara, and Los Angeles, CA, USA, invited seminars (8-28 Aug 2017).

157) Research visit to Pontificia Universidad Católica del Perú, invited seminar, Lima, Peru (16-20 Oct 2017).

158) Research visit to Shanghai University, invited seminars, Shanghai, China (13-24 Nov 2017).

159) Invited colloquium at Technical University of Delft, Delft, Netherlands (6-8 Dec 2017).

PUBLISHED RESEARCH ARTICLES

Accessible in arXiv e-print documents (quant-ph and cond-mat):

`http://arxiv.org/find/quant-ph/1/au:+solano_e/0/1/0/all/0/1`

`http://arxiv.org/find/cond-mat/1/au:+solano_e/0/1/0/all/0/1`

1) F. De Zela, E. Solano, and A. Gago, "Micromaser without the rotating wave approximation: The Bloch-Siegert shift and related effects", Optics Comm. **142**, 106 (1997).

2) J. Retamal, E. Solano, and N. Zagury, "Ultracold atoms interacting with a sinusoidal mode of a high Q cavity", Optics Comm. **154**, pp. 28-34 (1998).

3) E. Solano, R. L. de Matos Filho, and N. Zagury, "Deterministic Bell states and measurement of the motional state of two trapped ions", Phys. Rev. A **59**, R2539 (1999); **61**, 029903(E) (2000).

4) T. Bastin and E. Solano, "Numerical computation of one-photon mazer resonances for arbitrary field modes", Computer Physics Communications **124** (2-3), pp. 197-203 (2000).

5) E. Solano, P. Milman, R. L. de Matos Filho and N. Zagury, "Manipulating motional states by selective vibronic interaction in two trapped ions", Phys. Rev. A **62**, 021401(R) (2000).

6) E. Solano, C. L. Cesar, R. L. de Matos Filho and N. Zagury, "Reliable teleportation in trapped ions", Eur. Phys. J. D **13**, 121 (2001).

7) E. Solano, M. França Santos, and P. Milman, "Quantum phase gate with a selective interaction", Phys. Rev. A **64**, 024304 (2001).

8) E. Solano, R. L. de Matos Filho, and N. Zagury, "Mesoscopic superpositions of vibronic collective states of N trapped ions", Phys. Rev. Lett. **87**, 060402 (2001).

9) M. França Santos, E. Solano, and R. L. de Matos Filho, "Conditional large Fock state preparation and field state reconstruction in Cavity QED", Phys. Rev. Lett. **87**, 093601 (2001).

10) G. Morigi, E. Solano, B.-G. Englert, and H. Walther, "Measuring irreversible dynamics in a quantum harmonic oscillator", Phys. Rev. A **65**, 040102(R) (2002).

11) E. Solano, R. L. de Matos Filho, and N. Zagury, , "Entangled coherent states and squeezing in N trapped ions", J. Opt. B: Quantum Semiclass. Opt. **4**, S324 (2002).

12) G. Morigi, E. Solano, B.-G. Englert, and H. Walther, "Reversing the Jaynes-Cummings dynamics to measure decoherence", J. Opt. B: Quantum Semiclass. Opt. **4**, S310 (2002).

13) E. Solano, G. S. Agarwal, and H. Walther, "Strong-driving assisted multipartite entanglement in cavity QED", Phys. Rev. Lett. **90**, 027903 (2003).

14) T. Bastin and E. Solano, "Population trapping in the one-photon mazer", Opt. Comm. 217, pp. 239-247 (2003).

15) J. Pachos and E. Solano, "Generation and degree of entanglement in a relativistic formulation". Quantum Information and Computation (QIC), Vol. 3, No. 2, 115-120 (2003).

16) F. Casagrande, A. Ferraro, A. Lulli, R. Bonifacio, E. Solano, and H. Walther, "Measurement of the phase diffusion dynamics in the micromaser", Phys. Rev. Lett. **90**, 183601 (2003).

17) P. Lougovski, E. Solano, Z. M. Zhang, H. Walther, H. Mack, and W. P. Schleich, "Fresnel representation of the Wigner function: an operational approach", Phys. Rev. Lett. **91**, 010401 (2003).

18) B.-G. Englert, P. Lougovski, E. Solano, and H. Walther, "One-atom maser: nonseparable atom pairs", Laser Physics, Vol. **13**, No. 3, 355 (2003).

19) E. Solano, G. S. Agarwal, and H. Walther, "Generalized Schrödinger cat states in cavity QED", Optics and Spectroscopy, Vol. **94**, No. 5, 805 (2003).

20) F. Casagrande, A. Ferraro, A. Lulli, R. Bonifacio, E. Solano, and H. Walther, "Micromaser spectrum and phase diffusion dynamics", J. Opt. B: Quantum Semiclass. Opt. **5**, S459 (2003).

21) P. Lougowski, F. Casagrande, A. Lulli, B.-G. Englert, E. Solano, and H. Walther, "Solvable model of a strongly-driven micromaser", Phys. Rev. A **69**, 023812 (2004).

22) K. G. H. Vollbrecht, E. Solano, and J. I. Cirac, "Ensemble quantum computation in periodic potentials", Phys. Rev. Lett. **93**, 220502 (2004).

23) F. Casagrande, A. Ferraro, A. Lulli, R. Bonifacio, E. Solano, and H. Walther, "How to measure the micromaser spectrum in the trapping state regime", J. Mod. Optics **51**, 973 (2004).

24) P. Lougovski, E. Solano, and H. Walther, "Generation and purification of maximally-entangled atomic states in optical cavities", Phys. Rev. A **71**, 013811 (2005).

25) E. Solano, "Selective subspaces in trapped ions: state reconstruction and quantum logic", Phys. Rev. A **71**, 013813 (2005).

26) C. Schön, E. Solano, F. Verstraete, J. I. Cirac, and M. M. Wolf, "Sequential generation of entangled multi-qubit states", Phys. Rev. Lett. **95**, 110503 (2005).

27) F. Casagrande, B.-G. Englert, P. Lougovski, A. Lulli, E. Solano, and H. Walther, "A solvable open quantum system: the strongly driven micromaser", Optics and Spectroscopy, Vol. **99**, No. 2, 301 (2005).

28) R. Guzmán, J. C. Retamal, E. Solano, and N. Zagury, "Field squeeze operators in optical cavities with atomic ensembles", Phys. Rev. Lett. **96**, 010502 (2006).

29) T. Bastin, J. von Zanthier, and E. Solano, "Measure of phonon-number moments and motional quadratures through infinitesimal-time probing of trapped ions", J. Phys. B: At. Mol. Opt. Phys. **39**, 685 (2006).

30) L. Lamata, J. León, and E. Solano, "Dynamics of momentum entanglement in lower order QED", Phys. Rev. A **73**, 012335 (2006).

31) A. S. Parkins, E. Solano, and J. I. Cirac, "Unconditional two-mode squeezing of separated atomic ensembles", Phys. Rev. Lett. **96**, 053602 (2006).

32) P. Lougovski, H. Walther, and E. Solano, "Instantaneous Measurement of field quadrature moments and entanglement", Eur. Phys. J. D **38**, 423 (2006).

33) L. Lamata, M. A. Martín-Delgado, and E. Solano, "Relativity and Lorentz invariance of Entanglement Distillability", Phys. Rev. Lett. **97**, 250502 (2006).

34) L. Lamata, J. León, D. Salgado, and E. Solano, "Inductive classification of multipartite entanglement under SLOCC", Phys. Rev. A **74**, 052336 (2006).

35) M. França Santos, G. Giedke, and E. Solano, "Noise-free Measurement of Harmonic oscillators with Instantaneous Interactions", Phys. Rev. Lett. **98**, 020401 (2007).

36) Frank K. Wilhelm and Enrique Solano, "Photon lab in a circuit", News and Views, Nature **445**, 500 (2007).

37) N. Kiesel, C. Schmid, G. Tóth, E. Solano, and H. Weinfurter, "Experimental Observation of Four-Photon Entangled Dicke State with High Fidelity", Phys. Rev. Lett. **98**, 063604 (2007).

38) L. Lamata, J. León, D. Salgado, and E. Solano, "Inductive Entanglement Classification of Four Qubits under SLOCC", Phys. Rev. A **75**, 022318 (2007).

39) A. Retzker, E. Solano, and B. Reznik, "Tavis-Cummings model and collective multi-qubit entanglement in trapped ions", Phys. Rev. A **75**, 022312 (2007).

40) G. Romero, C.E. López, F. Lastra, E. Solano, and J.C. Retamal, "Direct measurement of concurrence for atomic two-qubit pure states", Phys. Rev. A **75**, 032303 (2007).

41) C. Schön, K. Hammerer, M. M. Wolf, J. I. Cirac, and E. Solano, "Sequential generation of matrix-product states in cavity QED", Phys. Rev. A **75**, 032311 (2007).

42) Y. Delgado, L. Lamata, J. León, D. Salgado, and E. Solano, "Sequential Quantum Cloning", Phys. Rev. Lett. **98**, 150502 (2007).

43) C. López, H. Christ, J. C. Retamal, and E. Solano, "Effective Quantum dynamics of interacting systems with inhomogeneous coupling", Phys. Rev. A **75**, 033818 (2007).

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SCIENTIFIC COMMITTEES & EVALUATIONS

1) Evaluator in panels of national and international Master and PhD thesis, habilitations, and permanent positions in Spain, Sweden, France, Germany, Netherlands, Japan, South Africa, China, Canada, USA, among others.

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4) Organizer and member of scientific committees in national and international workshops and conferences in Spain, Germany, Austria, USA, China, Sweden, Peru, Japan, UK, among others.

5) Referee of internationally renowned journals and editorials: EPJ Quantum Technology, Physical Review A, Physical Review B, Physical Review X, Physical Review Letters, New Journal of Physics, Scientific Reports, Nature, Nature Physics, Nature Photonics, Nature Communications, Nature Quantum Information, Science, among others.

6) Editor of books and scientific journals at a national and international level: IOP New Journal of Physics, SPRINGER Quantum Technology, IOP Journal of Physics A, among others.

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