

LUIZ DAVIDOVICH - CURRICULUM VITÆ - May 2018

• PERSONAL DATA:

- *Place and Date of Birth:* Rio de Janeiro (Brazil) - June 25, 1946
- *Citizenship:* Brazilian
- *Work Address:*

Instituto de Física, Universidade Federal do Rio de Janeiro

Caixa Postal 68528

21941-972 Rio de Janeiro, RJ – Brazil

Phones: (55)(21) 3938-7930

FAX NUMBER: (55)(21)3938-7368

E-MAIL: ldavid@if.ufrj.br

• EDUCATIONAL BACKGROUND

- B. Sc. at PUC-Rio, 1969.
- Ph. D. at the University of Rochester, 1975 (Advisor: Prof.H.M. Nussenzveig).

• AWARDS

- Grand-Cross of the National Order of Scientific Merit, awarded by the President of Brazil, 2000.
- 2001 Physics Prize, Third World Academy of Sciences (Trieste, Italy).
- Member of the Brazilian Academy of Sciences.
- Member of the Academy of Sciences for the Developing World (TWAS).
- Foreign Associate of the National Academy of Sciences, USA.
- Fellow of the Optical Society of America.
- Fellow of the American Physical Society
- Brazilian National Prize of Science and Technology “Admiral Alvaro Alberto”, 2010.
- Tamandare Medal, awarded by the Brazilian Navy, 2010.

• ACADEMIC ACTIVITIES:

- Research Assistant at the Univ. of Rochester, 1969-1975.
- Assistant Professor at the Institut für Theoretische Physik, ETH - Zurich, 1976-1977.
- Assistant Professor at PUC-Rio - 1977-1982.
- Associate Professor at PUC-Rio - 1982-1993.
- Full Professor at PUC-Rio - 1993-1994.
- Full Professor at the Universidade Federal do Rio de Janeiro - From 1994.
- Visiting Professor at the Laboratoire Kastler-Brossel de l'École Normale Supérieure, Paris: September 1986 - July 1987, January-March 1991, February 1994, July 1995, January-February 1997, January-February 2001, November 2001-January 2002.
- Visiting Professor at the Center for Advanced Studies of the University of New Mexico, Albuquerque, New Mexico: January-February 1989, September 1991-May 1992, February 1998.
- Visiting Professor at the Max-Planck Institute für Quantenoptik, Garching, July-August 1989.
- Visiting Researcher at the Service de Physique Atomique, Centre d'Énergie Atomique de Saclay, Saclay, April-August 1991.
- Visiting Scientist, Institute of Theoretical Physics, University of California at Santa Barbara, California, USA, November-December 1996, and August-October 2001.
- Visiting Researcher, Isaac Newton Institute, University of Cambridge, England, July 1999.
- Visiting Professor, Université de Paris VI, January-February 2001, and June 2005.
- Visiting Researcher, University of Texas A&M, College Station, Texas, USA, February 2006.
- Visiting Researcher, Max-Planck Institute für Physik komplexer Systeme, Dresden, Germany, July 2006.
- Visiting Researcher, University of Freiburg, Germany, July 2008.

- Visiting Researcher, Weizmann Institute, Israel, August 2008.
- Visiting Researcher, ICFO (Institute of Photonic Sciences), Barcelona, Spain, July 2009.
- Visiting Researcher, University of Texas A&M, College Station, Texas, USA, February 2010.
- Lecturer at College de France, Paris, France, February 2011 and February 2016.

• **THESIS ADVISING:**

- Hélio Rochlin, “*Quantum Theory of Laser Radiation Scattering by Electrons in Magnetic Fields*”, M. Sc., 1981.
- Jean Claude Garreau, “*Atomic Ionization in Intense Laser Fields*”, M. Sc., 1985.
- Ricardo Horowicz, “*Transverse Effects and Fluctuations in Optical Bistability*”, Ph. D., 1985.
- Carlos Renato de Carvalho, “*Quantum Fluctuations in Dispersive Optical Bistability*”, M. Sc., 1985.
- Mauro Fernandes Pereira Jr., “*Photon Echoes in Alkaline Cyanides*”, M. Sc., 1985.
- Ricardo Toddling, “*Ionization by Laser Fields: Study of a One-Dimensional Model*”, M. Sc., 1986.
- Paulo Américo Maia Neto, “*Quantum Theory of the Two-Photon Micromaser: The Non-Degenerate Case*”, M. Sc., 1988.
- Antonio Zelaquett Khoury, “*Role of Pumping Statistics in Micromasers*”, M. Sc., 1990.
- Paulo Alberto Nussenzveig, “*Theory of the Correlated Emission Laser*”, M. Sc., 1990.
- Paulo Américo Maia Neto, “*Theory of Two-Photon Lasers and Masers: The Non-degenerate Case*”, Ph. D., 1991.
- Carlos Renato Carvalho, “*Singularities in the Starting Times of Micromasers and Lamb-dip effects in Lasers with Saturable Absorbers*”, Ph. D., 1991.
- Sérgio Mendes Dutra, “*Squeezed Light Generation in Two-Photon Correlated Emission Lasers*”, M. Sc., 1991.

- Márcia T. Fontenelle, “*Quantum Noise Reduction in Lasers with Injected Signal*”, Ph. D., 1994.
- Antônio Zelaquett Khoury, “*Subpoissonian Lasers and Masers*”, Ph. D., 1994.
- Luiz Guilherme Lutterbach, “*Production and Detection of Squeezed States in Cavities*”, M. Sc., 1995.
- Fábio M. Peixoto, “*Stochastic Schrödinger Equations applied to a Quantum Non-demolition Measurement*”, M. Sc., 1995.
- Tarso Benigno L. Kist, “*Stochastic Schrödinger Equations applied to Dissipative Systems*”, Ph. D., 1996.
- Dario Tavares de Castro Neto, “*Quenching of Phase Noise in Lasers with Injected Signal*”, M. Sc., 1996.
- Marcelo P. E. de França Santos, “*Dynamics of Statistical Properties of Electromagnetic Fields emerging from Cavities*”, M. Sc., 1997.
- Pérola Milman, “*Production, manipulation, and protection of quantum states and decoherence*”, Ph. D., 2000.
- Luiz Guilherme Lutterbach, “*Measuring the quantum state of harmonic systems*”, Ph. D., 2001.
- Marcelo P. E. de França Santos, “*Entangled states of atoms and photons: production, characterization, and applications*”, Ph. D., 2001.
- André Ricardo R. de Carvalho, “*Chaos, decoherence, quantum-state protection, and the quantum-classical transition in trapped ions*”, Ph. D., 2002.
- Dario Tavares de Castro Neto, “*Multistability in a trapped-ion system*”, Ph. D., 2003.
- Paulo Augusto Sá Pires Filho, “*Output coupling for trapped fermions*,” Ph. D., 2005.
- Alexandre Baron Tacla, “*Microscopic theory of decoherence in cavity QED*,” M. Sc., 2005.
- Miguel Justiniano Peralta Abanto, “*Constraints for the realization of Silicon-based quantum computers*,” Ph. D., 2006.
- Fernando da Rocha Vaz Bandeira de Melo, “*Entanglement, complementarity, and decoherence*”, Ph. D., 2006.

- Mario Leandro Aolita, “*The physics of entanglement: production, detection, and applications*,” Ph. D., 2008. Awarded the Brazilian Physical Society prize for the best thesis in physics, 2010.
- Malena Hohn-Meyll, “*Effects of the environment on the entanglement of quantum states*,” Ph. D., 2009.
- Rafael Chaves Souto Araújo, “*Entanglement under decoherence and its applications*,” Ph. D., 2010.
- Adriana Auyuanet, “*Dynamics of quantum correlations*”, Ph. D., 2010.
- Bruno Moura Escher, “*Parameter estimation in open quantum systems*”, Ph. D., 2011 (co-advisor: Ruynet Lima de Matos Filho).
- Osvaldo Jiménez Farías, “*Entanglement in qubit systems and its evolution under decoherence: Theory and experiment*,” Ph. D., 2012 (co-advisor: Paulo Henrique Souto Ribeiro).
- Camille Raymond Lombard Latune, “*Quantum limit for the measurement of a classical force probed by a noisy harmonic oscillator*,” Ph. D., 2014.
- Gabriel Bié Alves, “*Metrologia quântica e amplificação de valores fracos*”, Ph. D., 2015.

● **OTHER ACTIVITIES:**

- Secretary General of the Brazilian Physical Society, 1981–1983.
- Member of the Physics Committee of the Brazilian National Science Foundation, 1988–1989 and 1998-2000.
- Member of the Advisory Editorial Boards of *Optics Communications* (1994-2000) and *Journal of Optics B: Quantum and Semiclassical Optics* (1998-2001).
- Associate Editor of the *Journal of the Brazilian Association for the Advancement of Science* (1995-2000).
- Councillor of the Brazilian Association for the Advancement of Science, 1993–1995.
- Councillor of the Brazilian Physical Society, 1997-2001, 2003-2007, and 2009-2013.
- Member of the Editorial Board of the UNICAMP Publishing House, 2002-2004.

- Member of the Editorial Board of the *Annals of the Brazilian Academy of Sciences*, 2003-2010.
- Head of the *Brazilian Millenium Institute for Quantum Information* (involving 12 institutions in Brazil), from December 2001 to April 2006.
- Director of the Brazilian Academy of Sciences, 2004-2007, 2007-2010, and 2010-2013.
- Member of the Editorial Board of *Physical Review A*, January 2005 – December 2009.
- Member of the Editorial Board of *New Journal of Physics*, 2015-2017.
- Member of the Deliberative Council of the Brazilian National Research Foundation (CNPq), 2005-2009.
- Member of the Scientific Council of the International Institute of Physics (Natal, Brazil), 2010-2013
- Member of the Advisory Editorial Board of *Journal of Physics B: Atomic, Molecular, and Optical Physics*, from January 2008 to December 2011.
- Member of the Higher Council of CAPES (Division of the Ministry of Education of Brazil), 2008-2014.
- Member of the Administrative Council of IMPA (Institute for Pure and Applied Mathematics), since 2008; head of the Administrative Council of IMPA since 2013.
- Member of the Administrative Council of the National Center for Research on Energy and Materials (CNPEM), 2011-2014.
- Member of the board of the InterAcademy Council (IAC), 2011-2014.
- Member of the Executive Board of the International Council for Science (ICSU), 2011-2014.
- Member of the International Committee for Scientific and Strategic Orientation of College de France, for the period 2012-2016 and 2017-2021.
- President of the Brazilian Academy of Sciences, May 2016 to May 2019.
- **ORGANIZATION OF CONFERENCES AND WORKSHOPS SINCE 2003**

- Co-organizer of the Panamerican Advanced Studies Institute (PASI) on the Physics of Information, held in Búzios, Brazil, from November 30 to December 14, 2003.
- Co-organizer of the International Workshop on Quantum Computation, held at the International Center for Condensed Matter Physics, Brasilia, August 2004
- Member of the Program Committee of the conference Quantum Optics II, held in Cozumel, Mexico, December 2004
- Member of the Program Committee of the 9th International Conference on Squeezed States and Uncertainty Relations, held in Besançon, May 2005
- Convenor of the Symposium on the World Year of Physics, in the 16th General Meeting of the Academy of Sciences for the Developing World (TWAS), held in Alexandria, Egypt, December 2005
- Member of the Program Committee of the conference Quantum Optics III, held in Pucon, Chile, December 2006
- Member of the Program Committee of the SPIE meeting on Fluctuations and Noise, Florence, Italy, May 2007
- Member of the Program Committee of the OSA Workshop on Entanglement and Decoherence, Boston, USA, July 2008
- Secretary-General of the 4th. Brazilian National Conference on Science, Technology, and Innovation for a Sustainable Development, Brasilia, Brazil, May 2010
- Member of the Program Committee of the OSA-Shanghai Institute of Optics Workshop on Entanglement, Decoherence, and Quantum Control, Qufu, China, June 2010
- Co-chair of the OSA Latin American Optics and Photonics Conference, Recife, Brazil, September 2010
- Co-chair of the 1st. Brazil-France meeting on Nanomagnetism, Spin Electronics and Carbon-Based Materials, and Quantum Optics, Búzios, Brazil, December 2012
- Member of the Organizing Committee for the Rochester Conference on Coherence and Quantum Optics, CQO-X, June 2013
- Member of the Scientific Committee of Quantum Optics VII, Mar del Plata, Argentina, October 2014.

- Member of the Scientific Committee of the Latin American Optics and Photonics Conference (LAOP), November 2014, Cancun, Mexico
 - Member of the Steering Committee of QCMC (Quantum Communication, Measurement and Computing) conference, for the period 2014-2018
 - Member of the Scientific Committee of Frontiers of Quantum and Mesoscopic Thermodynamics, held in Prague, Czech Republic, July 2015.
 - Member of the Scientific Committee of Frontiers of Quantum and Mesoscopic Thermodynamics, held in Prague, Czech Republic, July 2017.
 - Member of the Scientific Committee of Frontiers of Quantum and Mesoscopic Thermodynamics, to be held in Prague, Czech Republic, July 2019.
- **INVITED TALKS AND COURSES IN CONFERENCES AND SCHOOLS (SINCE 2003):**
- *8th International Conference on Squeezed States and Uncertainty Relations*, June 2003, Puebla, Mexico, Invited Talk (“Dissipation, diffusion, and the quantum-classical transition in phase space”).
 - *Pan-American Advanced Studies Institute on the Physics of Information*, December 2003, Buzios, Brazil, co-organizer and invited course (“Quantum information and quantum optics”).
 - *9th Jorge André Swieca Summer School: Quantum and Non-Linear Optics*, February 2004, Belo Horizonte, Minas Gerais, Brazil, Invited Course (“Quantum optics, quantum information, and quantum-state reconstruction”).
 - *Spring Meeting of the Materials Research Society*, April 2004, San Francisco, CA, USA, Plenary Talk (“Quantum Information”).
 - *Entanglement, Information, and Noise*, May 2004, Krzywowa, Poland, Invited Talk (“Quantum-classical limit in phase space: Roles of dissipation and diffusion”).
 - *XIX International Conference on Atomic Physics (ICAP)*, June 2004, Rio de Janeiro, Brazil, Plenary Talk (“Decoherence and quantum-classical transition in phase space”).
 - *International Conference on Frontiers of Nonlinear Physics*, July 2004, Nizhny Novgorod, Russia, Invited Talk (“Quantum-classical transition in phase space: Roles of dissipation and diffusion”).

- *Workshop on Quantum Computation*, August 2004, Brasília, Brazil, Organizer and Invited Talk (“Decoherence and the classical limit of quantum mechanics”).
- *Quantum Optics II*, December 2004, Cozumel, Mexico, Invited Talk (“Decoherence and the classical limit of quantum mechanics for chaotic systems”).
- *International Conference on Squeezed States and Uncertainty Relations 2005, May 2005*, Besançon, France, Invited Talk (“Quantum-classical transition in phase space”).
- *Fluctuations and Noise 2005*, May 2005, Austin, Texas, USA, Invited Talk (“Decoherence and the quantum-classical limit in phase space”).
- *International Summer School on Quantum Information*, September 2005, Dresden, Germany, Invited Talk (“Probing finite-time disentanglement for cavity QED and trapped ions”).
- *Workshop on Noise and Instabilities in Quantum Mechanics*, October 2005, Trieste, Italy, Invited Talk (“Heisenberg-limited measurements of displacements and rotations with cavity QED and ion traps”).
- *16th General Meeting of the Academy of Sciences for the Developing World (TWAS)*, December 2005, Alexandria, Egypt, Convener of the Symposium on the World Year of Physics, and Invited Talk (“Spooky action at a distance: Exploring the subtleties of the quantum world”).
- *International Conference on Quantum Optics*, December 2005, Hong Kong, China, Invited Talk (“Heisenberg-limited measurements and sub-Planck structures in phase space”).
- *International Nathiagali Summer College*, June 2006, Nathiagali, Pakistan, Invited course (“Entanglement and decoherence”).
- *V Meeting of the Brazilian Society for Materials Research*, October 2006, Florianopolis, Brazil, Keynote Lecture (“Quantum information”).
- *Quantum Optics III*, December 2006, Pucón, Chile, Invited Talk (“Experimental observation of the sudden death of entanglement”).
- *X Jorge André Swieca School on Quantum Optics and Nonlinear Optics*, March 2007, Maceió, Alagoas, Brazil, invited course (“Quantum optics and quantum information”).
- *XXX National Meeting on Condensed Matter Physics*, May 2007, São Lourenço, Brazil, Plenary Lecture (“Entanglement and decoherence”).

- *Fluctuations and Noise 2007*, May 2007, Florence, Italy, invited talk (“Experimental observation of environment-induced sudden death of entanglement”).
- *Coherence and Quantum Optics 9*, June 2007, Rochester, NY, USA, invited talk (“Entanglement and decoherence: global versus local dynamics”).
- *Workshop on Entanglement and Quantum Decoherence*, January 2008, Nara, Japan, invited talk (“Entanglement and decoherence”).
- *XI Jorge André Swieca School on Quantum Optics and Nonlinear Optics*, February 2008, São Paulo, Brazil, invited course (“Introduction to entanglement and quantum information”).
- *Quantum Electronics and Laser Science (QELS)*, May 2008, San Jose, California, tutorial talk (“Entanglement, decoherence, and quantum information”).
- *Quantum Coherence and Decoherence*, Benasque, Espanha, September 2008, invited talk (Dynamics of entanglement).
- *Quantum Optics IV*, Florianopolis, Brasil, October 2008, invited talk (Experimental investigation of the dynamics of entanglement: Sudden death, complementarity, and continuous monitoring of the environment).
- *International Workshop on the Foundations of Light-Matter Interactions*, Recife, October 2008, invited talk (Entanglement and decoherence).
- *Workshop on Open Quantum Systems: Decoherence and Control*, Harvard University, Boston, USA, November 2008 (Dynamics of entanglement).
- *XXXII National Meeting on Condensed Matter Physics*, May 2009,guas de Lindia, Brasil, invited talk (Dynamics of Entanglement).
- *Laser Physics 2009*, July 2009, Barcelona, Spain, invited talk (Entanglement and decoherence).
- *Workshop on Atoms, Cavities, and Photons*, September 2009, College de France, Paris, France, invited talk (“From quantum to classical: Schrödinger cats, entanglement, and decoherence”).
- *Workshop Quantum Nonstationary Systems*, October 2009, Brasilia, DF, Brazil, Invited talk (“Schrödinger cats, entanglement, and decoherence”).
- *Worskhop on Nanomagnetism, Spin Electronics, and Quantum Optics*, November 2009, CBPF, Rio de Janeiro, Brazil, invited talk (“Effects of the environment on quantum systems: Schrödinger cats, entanglement, and decoherence”).

- *3rd. Workshop on Quantum Chaos: Theory and Applications*, December 2009, Buenos Aires, Argentina, Invited talk (“From quantum to classical: Schrödinger cats, entanglement, and decoherence”).
- *Workshop on Entanglement, Decoherence, and Quantum Control*, June 2010, Qufu, China, invited talk (“Dynamics of entanglement”).
- *19th International Laser Physics Workshop (LPHYS’10)*, July 2010, Foz do Iguau, Brazil, invited talks (“Entanglement, decoherence, and quantum metrology” and “Open-system dynamics of entanglement”).
- *International Iran Conference on Quantum Information 2010 (IICQI-10)*, September 2010, Kish Island, Iran, Plenary talk (“Entanglement and Decoherence: From Einstein and Schrödinger to Quantum Optics Experiments”).
- *OSA Latin America Optics and Photonics Conference (LAOP)*, September 2010, Recife, Brazil, Tutorial (“Entanglement and Decoherence: From Einstein and Schrödinger to Quantum Optics Experiments”).
- *21st General Meeting of the Academy of Sciences for the Developing World (TWAS)*, October 2010, Hyderabad, India, Plenary talk (“Exploring the subtleties of the quantum world”).
- *OSA Frontiers in Optics Conferences (FiO 2010)*, October 2010, Rochester, NY, USA, Invited talk (“Quantum limits to lossy optical interferometry”).
- *Collège de France*, February 2011, four lectures on “Entanglement, decoherence, and quantum metrology”.
- *XII International Conference on Squeezed States and Uncertainty Relations*, May 2011, Foz do Iguau, Brazil, Plenary talk (“Ultimate precision limits in noisy quantum-enhanced metrology”).
- *18th Central European Workshop on Quantum Optics*, May 2011, Madrid, Spain, Plenary talk (“Quantum metrology with noisy systems”).
- *4th International Conference on Quantum Information*, June 2011, Ottawa, Canada, Invited talk (“Ultimate precision limits for parameter estimation in noisy quantum-enhanced metrology”).
- *XIII Cross Border Workshop on Laser Science*, June 2011, Rochester, NY, USA, plenary talk (“Entanglement and decoherence: From Einstein and Schrödinger to Quantum Optics experiments”).
- *Workshop on Quantum Tomography*, November 2011, Cingapura, invited participation.

- *14th Southwest Quantum Information and Technology Annual Meeting*, February 2012, Albuquerque, New Mexico, USA, invited talk (“Quantum metrology with noisy systems”).
- *National Meeting on Condensed Matter Physics*, May 2012, Aguas de Lindoia, Minas Gerais, invited talk (“Quantum metrology: Ultimate precision limits for estimation of parameters in noisy systems”).
- *VI International Workshop on Advances in the Foundations of Quantum Mechanics and Quantum Information with Atoms and Photons (Quantum 2012)*, May 2012, Turim, Italy, invited talk (“Quantum metrology and decoherence”).
- *Pécs Workshop on Quantum Information and Quantum Optics*, May 2012, Pécs, Hungary, invited talk (“Quantum metrology and decoherence”).
- *Laser Physics 2012*, July 2012, Calgary, Canada, invited talks (“Quantum limit for measurement of weak forces on harmonic oscillators” and “Emergence of multipartite entanglement between a bipartite system and its environment”).
- *Quantum Optics VI*, November 2012, Piriápolis, Uruguai, invited talk (“Quantum metrology in open dynamical systems”).
- *New Directions in the Quantum Control Landscape*, March 2013, Santa Barbara, CA, USA, invited talk (“Quantum metrology of open dynamical systems: Precision limits through environment control”).
- *Workshop on Quantum Telecommunications*, May 2013, Lisbon, Portugal, invited talk (“Quantum metrology, optical interferometry, and the quantum speed limit”).
- *Decoherence and Friends*, May 2013, Waterloo, Canada, invited talk (“Decoherence and quantum metrology”).
- *COST (European Cooperation in Science and Technology) Meeting*, março de 2014, Weizmann Institute, Rehovot, Israel, plenary talk (“Quantum metrology, quantum speed limit, and quantum control”).
- *Rochester Conference on Coherence and Quantum Optics, CQO-X*, June 2013, Rochester, NY, USA, invited talk (“Noisy quantum metrology, optical interferometry, and the time duration of physical processes”).
- *VII International Workshop on Advances in the Foundations of Quantum Mechanics and Quantum Information with Atoms and Photons (Quantum 2012)*, May 2014, Turim, Italy, invited talk (“Quantum speed limit and quantum control”).

- *19th Central European Workshop on Quantum Optics*, June 2014, Brussels, Belgium, plenary talk (“Quantum speed limit and quantum control”).
- *Conference on Precision Electromagnetic Measurements 2014*, August 2014, Rio de Janeiro, Brazil, opening keynote talk (“Quantum information and quantum metrology: Exploring the subtleties of the quantum world”).
- *Second International Workshop on Ultracold Rydberg Physics*, October 2014, Recife, Brazil, opening plenary talk (“From quantum to classical: Schrödinger cats, entanglement, and decoherence”).
- *4th. International Workshop on Entanglement, Decoherence, and Quantum Control*, October 2014, Buffalo, NY, USA, invited talk (“Decoherence and the flow of entanglement”).
- *Quantum Optics VII*, October 2014, Mar del Plata, Argentina, plenary talk (“Towards the ultimate precision limit in parameter estimation: Recent results in quantum metrology”).
- *Latin American Optics and Photonics Conference (LAOP)*, November 2014, Cancun, Mexico, invited tutorial talk (“Quantum metrology and noise: Towards ultimate precision limits in parameter estimation”).
- *Frontiers of Quantum and Mesoscopic Thermodynamics*, July 2015, Prague, Czech Republic, invited talk (“Towards the ultimate precision limit in parameter estimation: Application to weak-value amplification and quantum speed limit”).
- *Summer School Light in Science, Light in Life*, August 2015, Tequisquiapan, Mexico, invited course with two lectures (“Exploring the subtleties of the quantum world: From photons to qubits” and “From quantum to classical: Photons, entanglement, and decoherence”).
- *Quantum Information, Foundations, and Applications*, November 2015, Palaiseau, France, tutorial talk (“Quantum metrology: An overview of recent results”).
- *College de France, Paris, France*, February 2016, four invited lectures on quantum metrology.
- *International Conference on the Frontiers in Atomic, Molecular, and Optical Physics*, May 2016, Shanghai, China, invited talk (“Towards the ultimate precision limits: an overview of quantum metrology”).
- *Celebration of the 350 anniversary of the French Academy of Sciences*, September 2016, Paris, France, moderator of the session “Environment, Resources, and Recycling”.

- *Quantum Optics VIII*, October 2016, Maresias, So Paulo, invited talk (“Achieving metrological precision limits through post-selection”).
- *Fifth Anniversary of the ICTP-SAIFR*, November 2016, So Paulo, SP, invited talk for the general public (“Exploring the subtleties of the quantum world: From Einstein and Schrdinger to quantum information”).
- *Kastler Symposium*, December 2016, Paris, France, invited talk (“Reservoir engineering: Dissipation as a resource”).
- *Future Congress*, Santiago, Chile, January 2017, invited talk for the general public (“Exploring the subtleties of the quantum world: From photons to qubits”).
- *School on Interaction of Light with Cold Atoms*, ICTP- SAIFR, So Paulo, SP, January 2017, four invited lectures on “Quantum information with photons”.
- *Quantum-limited Metrology and Sensing*, Heraeus Seminar, Bad Honnef, Germany, February 2017, invited talk (“Quantum metrology based on post-selection”).
- *Frontiers of Atomic Physics and Quantum Optics*, Summer Physics School in Creta, Grece, July 2017, invited lectures (“Towards the ultimate precision limits in parameter estimation: An introduction to quantum metrology”).
- *Institute of Advanced Studies Workshop on Quantum Science*, City University of Hong Kong, November 2017, invited talk (“Emergence of the classical world from quantum physics: Schrödinger cats, entanglement, and decoherence”).
- *48th Winter Colloquium on the Physics of Quantum Electronics*, Snowbird, USA, January 2018, invited talk (“Quantum metrology: Toward the ultimate precision limits”).