



J. M. B. Lopes dos Santos

Curriculum Vitae

Biographical Data

Name	João Manuel Borregana Lopes dos Santos
Place and date of birth	Lisboa, July 29, 1956.
Nationality	Portuguese
Status	Married, two children.
Personal Website	https://www.fc.up.pt/pessoas/jlsantos

Degrees

- 2010 Habilitation in Physics, University of Porto.
- 1983 PhD in Theoretical Physics, London University (Imperial College of Science and Technology). Thesis title: *On quasiparticle lifetimes in disordered systems*.
- 1983 DIC (Diploma of Imperial College) in Mathematical Physics.
- 1978 Degree in Physics, specialization in Solid State Physics, University of Porto. Grade 18 (max. 20).
- 1976 BSc in Physics, University of Porto. Grade 18 (max. 20).

Academic Posts

- 2013– Professor of Physics: Physics and Astronomy Department, University of Porto.
- 2001–2013 Associate Professor of Physics: Physics Department, University of Porto.
- 1984–2001 Assistant Professor of Physics: Physics Department, University of Porto.
- 1983–1985 Post-doc: Physics Department, Rutgers University, New Jersey (with Elihu Abrahams) .
- 1979–1984 Junior Assistant: Physics Department, University of Porto (leave of absence from September 1980).

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1977–1979 Student teaching assistant: Physics Department, University of Porto.

Scientific Achievement

Scientific Interests

- Condensed Matter Physics; graphene and layered systems
- Physics Educations Research.

Relevant Publications: Condensed Matter

- 1 J. M. B. Lopes dos Santos, N. M. R. Peres, and A. H. Castro Neto. **Continuum model of the twisted graphene bilayer.** *Physical Review B*, 86(15):155449, Oct 25 2012.
- 2 Guohong Li, A. Luican, J. M. B. Lopes dos Santos, A. H. Castro Neto, A. Reina, J. Kong, and E. Y. Andrei. **Observation of Van Hove singularities in twisted graphene layers.** *Nature Physics*, 6(2):44–48, FEB 2010.
- 3 J. M. B. Lopes dos Santos, N. M. R. Peres, and A. H. Castro Neto. **Graphene bilayer with a twist: Electronic structure.** *Phys. Rev. Lett.*, 99(25):256802, DEC 21 2007.
- 4 Eduardo V. Castro, K. S. Novoselov, S. V. Morozov, N. M. R. Peres, J. M. B. Lopes dos Santos, Johan Nilsson, F. Guinea, A. K. Geim, and A. H. Castro Neto. **Biased bilayer graphene: Semiconductor with a gap tunable by the electric field effect.** *Phys. Rev. Lett.*, 99(21):216802, NOV 23 2007.
- 5 V. M. Pereira, F. Guinea, J. M. B. Lopes dos Santos, N. M. R. Peres, and A. H. C. Neto. **Disorder induced localized states in graphene.** *Phys. Rev. Lett.*, 96(3):036801, JAN 27 2006.
- 5 V. M. Pereira, J. M. B Lopes dos Santos, E. V. Castro, and A. H. C Neto. **Double exchange model for magnetic hexaborides.** *Phys. Rev. Lett.*, 93(14):147202, OCT 1 2004.
- 6 G. B. Ventura, D. J. Passos, M. B. Lopes dos Santos, J. M. Viana Parente Lopes, and N. M. R. Peres. Gauge covariances and nonlinear optical responses. *PHYSICAL REVIEW B*, 96(3), JUL 24 2017.
- 7 J. M. B. Lopes dos Santos and E. Abrahams. **Superconducting Fluctuation Conductivity in a Magnetic Field in 2 Dimensions.** *Phys. Rev. B*, 31(1):172–176, 1985.
- 8 J. M. B. Lopes dos Santos. **Self-Consistent Calculation of the Quasiparticlelifetime in Two-Dimensional Disordered Metals.** *Phys. Rev. B*, 28(2):1189–1192, 1983.

Relevant Publications: Physics Education Research

- 6 A. R. Mota and J. M. B. Lopes dos Santos, **Virtual images: Going through the looking glass,** *The Physics Teacher*, **55**, 52–53, DOI:{10.1119/1.4972501} 2017, URL: <http://aapt.scitation.org/doi/abs/10.1119/1.4972501>

- 5 A. R. Mota and J. M. B. Lopes dos Santos **Addition table of colours: additive and subtractive mixtures described using a single reasoning model**, *Physics Education*, **49**(1), 61, 2014.
- 4 Ana Rita Lopes Mota e João Lopes dos Santos, **Reflecting Understanding: Using lab stations to teach image formation**, *Science Scope*, **37**, 2, p20, 2013.
- 3 A. R. Mota, José Manuel Lopes e J. M. B. Lopes dos Santos, **Estações laboratoriais: uma aposta no ensino experimental das Ciências**, *Gazeta de Física*, **36**, N.1, p25, 2013.
- 2 A. R. Mota e J. M. B. Lopes dos Santos, **Eratosthenes' measurement of the Earth's radius in a middle school lab session**, *Latin American Journal of Physics Education*, **6**, Suppl. 1, 139 (Aug) (2012)
- 1 Carlos M. Carvalho, J. M. B Lopes dos Santos and M. J. Marques, **A time of flight method to measure the speed of sound**, *The Physics Teacher*, **46**, 428, 2008.

Bibliometric Data

Indexed Articles : **54** (one errata)

Indexed articles Q1 of Physics (WOS): 26

Citations: **5439**; w/ self-citation: **5402**

Citations per paper: **111**

h-index : **23**

Source: ISI Web of Knowledge

Date: 25-08-2022

researcher ID: A-2411-2009

Invited Talks

- 2014 **Twisted bilayer systems**, invited lesson, 1st Spinograph School, Braga, March 28.
- 2012–2013 **Continuum Model of the twisted graphene bilayer**, invited focus session, (T11.00001) APS March Meeting, Boston USA (29-02-2012); Invited seminar, National University of Singapore (21-01-2012); Programa Doutoral de Química , U. Porto (21-01-2013).
- 2011 **Continuum model of the twisted Bilayer**, 27 de Setembro, *Graphene: in Spintronics and Transport*, ICMM, CSIC, Madrid.
- 2009 **The twisted bilayer: an experimental and theoretical review**, *Graphene*, July 26 –August 8, Benasque, Spain.
- 2008 **Graphene bilayer with a twist and magnetic field**, *Workshop on Quantum Correlations and Coherence in Quantum Matter*, November 10-14, Évora.
- 2007 **Graphene bilayer with a twist: electronic properties**, *Dyproso XXXI, International Symposium on Dynamical Properties of Solids*, September 25-29, Porto.

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- 2007 **Moiré patterns in a graphene bi-layer:** *Workshop on the electronic properties of Graphene*, KITP, January 8-19, Santa Barbara, USA
- 2007 **Double exchange magnetism and transport in condensed matter:** *Advances in Physical Science, Meeting in honour of Professor A. L. Videira*, Aveiro.
- 2005 **Projeto Faraday: um projeto de intervenção no ensino da Física no Secundário,** *15^o Encontro Ibérico de Ensino da Física, Ourense.*
- 1998 **Possibilidades quânticas: introdução ao processamento quântico de informação,** plenary talk, Conferência Nacional de Física, Maia.
- 1996 **Linguagens de alto nível em Física,** Invited seminar, 6^o Encontro Ibérico de Ensino da Física, Faro.

Project Coordination

- 2018-2022 Principal investigator, project POCI-01-0145-FEDER-028887, **Non Linear Optical Properties of Layered Materials**
Total Budget: 239 729€
- 2007-2009 Porto team coordinator of project PTDC/FIS/64404/2006, **Transport Properties of Graphene and related systems**
PI: N. M. R. Peres.
total Budget: 94 971€; U. Porto budget: 34 479€
Project results: 45 papers—1 *Science*, 1 *Review of Modern Physics*, 7 *Phys. Rev. Lett*; co-author of 3 *Phys. Rev. Lett*.
From the final report: "*The scientific goals were thouroughly achieved. The results show greta scientific quality , namely at the level of peer review pubçlications. The project contributed to the training of young researchers and to the international recognition of the team. Excelent. Results and publications that made history*"
- 2007-2009 Coordinator of Project *Ciência Viva*, PVI/252, **Intervenção no ensino de Física no Básico (modelo Projeto Faraday).**
Budget: 6 924€.
- 2001-2006 Coordinator of **Projeto Faraday** (financed by Calouste Gulbenkian Foundation).
Budget: 243 441.72€
Results: materials and final report in <http://faraday.fc.up.pt>.
- 1998-2001 Porto team coordinator of project PRAXIS XXI 2/2.1/FIS/302/94, **Electronic properties of new materials.**
PI : José M. P. Carmelo.
Budget: 43 072 076\$; U. Porto budget: 11 048 730\$.

Project results: 77 papers in peer reviewed journals—6 *Phys. Rev. Lett*; co-author of 1.

Scientific meetings

- 2003 Organizing committee member, *Spin and Charge Transport in Nanostructures*, Braga, September 1 to 5 (financed by E. U.).
- 2001 Organizing committee coordinator, *Transport and Dynamics in Complex Electronic Materials*, Porto, 3 a 7 de Setembro (financed by E. U.).
- 2000 Meeting Organizer: *Mini Workshop on the physics of new materials*, U. Porto, projecto Praxis XXI 2/2.1/FIS/302/94.
- 1997-2000 Program administrator for *Spatio-temporal Coherence in Solid State and Living Matter*; four summer schools in Oeiras (2), Lisbon and Vila Nova de Cerveira; financed by E.U. via *Training and Mobility of Researchers*.
- 1997 Organizing Committee coordinator for summer school *Dynamic Correlations in Many-Fermion Systems*, Vila Nova de Cerveira.
- 1990 Organizing Committee member of *Superconductivity Week*, U. Porto.

Peer Review

- 2016, 2017 Evaluator for A3ES (accreditation agency for Higher Education degrees). Panel coordinator for 9 Degrees.
 - 2016, 2017 Physics Panel Coordinator for Foundation of Science and Technology (FCT) calls for Doctoral and Post-doctoral Grants.
 - 2013-2016 Jury member for U. Porto, Excellency in Teaching Prize.
 - 2014-2016 Jury member for Calouste Gulbenkian Foundation, Research Stimulus Prize.
- Referee for *Nature Physics*, *Physical Review Letters*, *Physical Review B*, *New Journal of Physics*, *Journal of Condensed Matter Physics* and *Gazeta de Física*.

Supervision

PhD

- 2021 Gonçalo Bastos Ventura, **Non-Linear Optical Properties of 2D Materials**, U. Porto. (with João Viana Lopes, U. Porto)
- 2021 Daniel Passos, **Plasmonics of 2D Layered Systems.**, U. Porto.
- 2019 Niaz Ali Khan, **Correlated Disorder in One-dimensional Electronic Systems**, U. Porto (with João Viana Lopes, U. Porto).
- 2013 João Nuno Rodrigues, **Transport in Graphene Nanostructures**, U. Porto (with Nuno Peres, U. Minho).
- 2012 Ana Rita Mota, **Ensaio Prático do Movimento Core Knowledge no Ensino da Física em Portugal**, U. Porto.

- 2009 Aires Francisco Ferreira, **The Quantum–Classical Transition: from Opto-Mechanics to Solid State**, U. Porto.
- 2008 Eduardo Vieira de Castro, **Correlations and Disorder in Electronic Systems: from Manganites to Graphene**, U. Porto (Eith Nuno Peres, U. Minho).
- 2006 Vitor Manuel Pereira, **Disorder and Localization Effects in Correlated Electronic Systems**, U. Porto (with Antonio Castro Neto, U. Boston).

MSc

- 2019 Maurício Quintela, **Polygonal Quantum Dot Spectra, in 2D Materials** MSc in Physics, U. Porto.
- 2017 João Pedro dos Santos Pires, **From Quantum Spin Models to Matrix Product States**, MSc in Physics, U. Porto.
- 2016 Gonçalo Ventura, **Gauge Invariance and Nonlinear Optics in Crystals**, MSc in Physics, U. Porto.
- 2011 Vasco Gonçalves, **Transporte em Nano-estruturas de Grafeno**, MSc in Physics, U. Porto.
- 2010 Maria Celina Lourenço, **Métodos de Monte-Carlo em Braquiterapia**, MSc in Medical Physics, U. Porto.
- 2006 E. V. Castro, **Efeito de Desordem em Manganites**, Mestrado Inter-Universitário em Física da Matéria Condensada, U. Aveiro.
- 2003 Nuno A. Vaz, **Princípio de Conservação de Energia: Proposta Experimental para o Ensino Secundário**, MSc in Physics for Teaching, U. Porto.

First Degree

- 1991-2009 Fourteen degrees thesis of scientific profile and five educational profile.

Teaching

First Degree Courses

- 2013 *Mechanics*
- 2019-2013 *Condensed Matter Physics*
- 2008–2013, 2016 *Techniques of Communication*
- 2001–2004 *Computational Physics*.
1999
- 1999 *Physics Topics*
- 1994–1997
- 1997 *Phase Transitions*
- 1992, 2000 *Quantum Mechanics*

- 1994–1995 *Magnetism*
 1988–1992
 1986
 1991 *Physics I* (Mechanics, for Geologists)
 1988 *Physics II* (Electromagnetism, for Geologists)
 1989 *Electronic Structure and Transport Phenomena*
 1985–1988 *Elements of Quantum Mechanics*

Master Courses

- 2015–2022 Complements of Condensed Matter Physics (MF)
 2015–2022 Advanced Quantum Mechanics (MF)
 2013 *Computational Methods in Medical Physics* (22h, MFM)
 2013 *Complementary Physics Topics* (22h, MFM)
 2008–2010 *Complements of Physics* (7,5 ECTS, MEFQ)
 2005 *Computational Methods in Medical Physics and Biophysics* (24h, PGFM)
 1999–2001 *Topics in Condensed Matter Physics* (30h, MIU)
Quantum Mechanics (10 h, MFE)
 1996 *Computers in Physics Teaching* (30h, MFE)
Quantum structures and nano-structured materials (5h, MFESCM)
Electronic Interactions in Solids (30h, MFESCM)
Disordered Electronic Systems (6h, MFESCM)

MFESCM – MSc in Solid State and Materials Physics, U. Porto.

MIU – Inter-university MSc in Condensed Matter Physics, U.Aveiro/UCoimbra/U. Porto.

MFE – MSc in Physics for Teaching, U. Porto.

PGFM – Post-graduate course in Medical Physics, U. Porto.

MEFQ – MSc in Physics and Chemistry Teaching (Bolonha), U. Porto.

MFM – MSc in Medical Physics

MF - MSc in Physics

Doctoral Program Courses

- 2016 Twisted Bilayer Graphene (18h, MAP-fis)
 2015 Electronic Structure of Graphene: Tight-binding and DFT (6h, MAP-fis)

Short Courses

- 2007 Quantum Technologies: should engineers learn Quantum Mechanics? (3h). ISEP, Porto.
 2000 Quantum Computation: an introduction (2h): Computer Science Department, U. Porto.
 1996 The Computer in Physics Teaching: practical sessions, teacher training, FOCO program.
 1993 Quantum Mechanics, (22h): teacher training, FOCO program.

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- 1992 Introduction to *Mathematica*, (12h), U. Porto.
- 1988 The Hubbard Model in the study of strongly correlated systems (6h): CFMC, Lisbon, December 5 and 6.
- 1987-1988 Particle Duality and uncertainty relations: Meeting *Física Quântica no Ensino Secundário*, Schrödinger's centenary celebration, November 25, 26 and March 2, 3.
- 1987 Disordered Electronic Systems, (4 lectures): II Iberian School of Condensed Matter Physics, Figueira da Foz.
Electrodynamics of Superconductors: Superconductivity Week, U. Porto.
- 1986 Magnetic Excitations in Metals: II Magnetism Week , U. Porto.
- 1984 Disordered Electronic Systems (3h): PhD program, Princeton University.

Innovation in Teaching

- 2008 *Techniques of Communication*: reflections on oral and written communication; tools for production of scientific text and automated bibliographies.
- 2001-2006 *Faraday Project*: materials (texts, activities and multimedia) for secondary schools, with the intention to ease the transition to University studies.
- 1999–2004 *Computational Physics*: introduction of C language in teaching in the Physics Department; introduction to standard scientific libraries (LAPACK e GSL); inclusion of stochastic methods in the curriculum.
- 1999-2005 *Quantum Mechanics*, MSc in Physics for teaching: lecture course adapted to secondary school teachers, with emphasis on topics usually addressed in the Chemistry curriculum: wave -particle duality, energy concept in Quantum Mechanics, decays, orbitals, quantum numbers and symmetries.
- 1994-1999 Physics Topics: course of first year, first semester of Physics Degree, based on the premise that secondary school physics allows treatment of interesting problems: lecture notes and problem collection.

Outreach activities

Project Faraday

- 2002-2007 *Project Faraday: an intervention in the teaching of physics at secondary level*, involved the monitoring of physics teaching to several classes of different secondary schools in the Greater Porto area. Teaching materials were made available in the project portal <http://faraday.fc.up.pt>. The project also involved teacher training, and following students results until the national examinations.

Public talks

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- 2016 **Resolução de Problemas** (*Problem Solving*), Invited talk, III Encontro da Casa das Ciências, ISEP, Porto, 11-13 September 2016
- 2015-2016 **Luz e Matéria: 2015 Ano Internacional da Luz** (*Light and Matter: 2015, International Year of Light*), ES Alves Martins (Viseu), ES Aurélia de Sousa (Porto), ES Águas Santas (in Encontro “*A ciência por quem a Faz*”, September, 7).
- 2014 **Física do Século XXI no Secundário**, (*The Physics of XXI century in High School*) Olimpíadas de Física, Dept. de Física e Astronomia, U. Porto; II Encontro da Casa das Ciências, ISEP, (15-07-2014)
- 2012 **Futuro de manuais e outros apoios de uso livre** (*the future of textbooks and other open access materials*), Encontro de editores e árbitros da Casa das Ciências (16-11-2012)
- 2012 **O Futuro** (*The future*), fringe program of FANTASPORTO, Teatro Rivoli, Porto, (fevereiro).
- 2011-2014 **Mérito ou oportunidade, episódios da vida de um físico**, (*Merit or opportunity, episodes in the life of a physicist*) ES de Águas Santas, (27-09-11); ES Colégio Riba de Ave; ES Colégio Luso Francês (23-03-1012); Tardes de Matemática da SPM, Biblioteca Lúcio Craveiro, Braga (27-10-12); ES Aurélia de Sousa (20-Nov-2012); Dept of Chemistry and Biochemistry, U. Porto (11-04-2014)
- 2010-2012 **Grafeno, Prémio Nobel de 2010**, (*Graphene, 2010 Nobel Prize*) ES Aurélia de Sousa, EB2,3 da Agrela; VII Escola de Verão de Física, U. Porto; Jornadas do Centro de Física da Universidade do Minho, U. Minho (21-nov-11); Encontro Juvenil de Ciência, CAUP/UP (7-09-2011); Materiais às Terças, FEUP (16-10-12).
- 2009 **Relatividade** (*Relativity*), Colégio do Rosário, ES Garcia de Orta, INED Nevogilde
- 2007-2010 **As dez experiências mais belas de Física** (*Ten most beautiful physics experiments*): U.Porto, E.S. Augusto Gomes, ES Joaquim Ferreira Alves (Valadares), ES Filipa de Vilhena, ES Alexandre Herculano, ES Senhora da Hora.
- 2005 **O que faz Einstein na minha sala de estar?** (*What is Einstein doing in my living room?*) Dept. Física, U.Porto, ES Emídio Garcia, Bragança, ES Milheirós de Poiares, ES de Rio Tinto, Feira da UP, ES Senhora da Hora, ES Fontes Pereira de Melo, Centro Ciência Viva de Vila do Conde, Biblioteca Municipal de Arouca, Escola de Física, (Dept. Física, U.Porto), Câmara Municipal de Matosinhos, ES Águas Santas, Colóquio da Casa Museu Abel Salazar, ES da Trofa, ES Filipa de Vilhena, ES Inês de Castro (2010).
- 2005 **Einstein, o pensador mais influente do século XX** (*Einstein, the most influential thinker of the XX century*): Ciências na Cidade, Fundação Engenheiro António de Almeida, 15 de Dezembro.

- 2005 **O fim da Física: um princípio para a educação e o desporto. O físico pelo físico: um olhar da Física pelo desporto** (*The purpose of physics: a principle for education and sports; the physical by a physicist: a look on Sport by a physicist*): Faculdade de Desporto, U. Porto, 14 de Dezembro.
- 2005 **A Física é uma chatice?** (*Is Physics Boring?*) Fórum FNAC, Norte Shopping (mesa redonda com Carlos Herdeiro).
- 2005 **Currículos essenciais de Física: a Física na formação em Engenharia e Tecnologia** (*Essential Physics Curricula: Physics in the training of engineers*): U. Coimbra, 13 de Outubro.
- 2005 **O que diria Einstein da teleportação** (What would Einstein have said about Teleportation): Departamento de Física da Faculdade de Ciências da U. Lisboa, Auditório da Reitoria da U. de Aveiro.
- 2005 **Condensação de Bose-Einstein: 70 anos entre a previsão e concretização** (*Bose-Einstein Condensation, 70 years between prediction and fulfillment*): Dept. Física, IST, 17 de Novembro.
- 2001–2002 **O que muda no Mundo quando varia a temperatura** (*What changes in the world when temperature changes*), Fundação Calouste Gulbenkian: Exposição *Potências de 10*; palestra plenária, Conferência Nacional de Física, Évora; Dept. Física U. Porto.
- 2000 **Vida inteligente no Universo - possibilidades físicas de viagens inter-estelares** (*Intelligent life in the Universe—physical possibilities of inter-stellar travel*): Forum fnac, Matosinhos.
- 2000 **Simetrias, topologia, números e estatísticas quânticas** (*Symmetries, topology, quantum numbers and statistics*): Dept. de Matemática, U. Porto, Dept. Física, U. Minho.
- 2000 **Mecânica quântica e o pensamento contemporâneo** (*Quantum Mechanics and contemporary thought*): Dept. de Física, U. Porto.
- 1999 **Mecânica quântica ajuda a procurar uma agulha num palheiro: O algoritmo de Grover** (*Can quantum mechanics help search a needle in a haystack? Grover's Algorithm*): Dept. de Física, U. Porto.
- 1998 **Efeito Hall quântico fraccionário: prémio Nobel** (*Fractional quantum Hall effect: the Nobel Prize*): Depts. Física, U. Porto, IST e CFMC (U. Lisboa).
- 1998–2000 **Computação quântica** (*Quantum Computation*): Depts. de Física, U. Porto, U. Évora.
- Teleportação quântica** (*Quantum Teleportation*): Depts. de Física., U. Porto, U. Aveiro, IST e CFMC, U. Lisboa.
- 1997 **Tecnologia quântica** (*Quantum Technology*): Dept. de Física, U. Porto.

- 1995 **Anyons - Estatísticas fracionárias** (*Anyons, fractional statistics*): Dept. de Física, U. Porto, U. Lisboa and IST.
- 1995 **A Natureza a Física e a Liberdade** (*Nature, Physics and Freedom*): Colóquio *Igreja e Missão*, Seminário da Boa Nova, V. N. de Gaia.
- 1988-1991 **Mistérios quânticos** (*Quantum mysteries*): ES Rodrigues de Freitas, ES de Paredes, ES Infante D. Henrique, ES Almeida Garrett, ES Águas Santas, ES José Régio.
- 1987 **Irreverências do mundo quântico** (*Irreverent quantum world*): Dept. de Física., U. Porto.
- 1985 e 1986 **O efeito Hall quantificado: prémio Nobel de 1985** (*Quantum Hall effect, Nobel prize of 1985*): Dept. de Física, U. Porto e CFMC, U. Lisboa.

Management and administration

- 2022 President of Scientific Council of Faculty of Sciences, U. Porto.
- 2013-22 Course director of MAP-fis, joint doctoral program of Universities of Minho, Aveiro and Porto
- 2010-2013 Head of Physics and Astronomy Department of U. Porto.
- 2010-present Member of Scientific Council of Faculty of Sciences, U. Porto.
- 2009-present Member of Committee for employee performance evaluation (SIADAP) of Faculty of Sciences, U. Porto.
- 2009 Member of the Charter Assembly of Faculty of Sciences of U. Porto.
- 2008-2010 Head of Department of Physics of U. Porto.
- 2005-2006 Coordinator of Bologna reform of the Physics Department of U. Porto.
- 2002-2003 Coordinator of ALEPH project, for creation of digital catalog of all libraries of Faculty of Sciences, U. Porto.
- 1999-2001 Scientific Coordinator of research center, Centro de Física do Porto.
Coordinator for the Physics Department for creation of Degree of *Teaching of Physics and Chemistry*.
- 1999–2000 Member of executive committee of the Physics Department, U. Porto.
- 1996–1997
- 1996–1999 Coordinator of Physics Degree.
- 1996–1997 *Webmaster* of the Physics Department, in charge of creation of its first Web portal.
- 1995–2003 Member of executive committee of ISTAS–Portugal.
- 1995–1998 Assistant to the director of Informatics Center of Faculty of Sciences, U. Porto.
- 1994–1995 Coordinator of project for conception, acquisition and installation of computer network for Physics and Chemistry Buildings.

- 1994–1996 Member of internal evaluation committee of Physics Degree.
- 1990–1991 Coordinator of Scientific Council of Physics Department, U. Porto.
- 1987–1990 Treasurer of North Delegation of Portuguese Physical Society.

List of Publications

Scientific papers

- 54 D J Passos, G B Ventura, J M B Lopes dos Santos, and J M Viana Parente Lopes. Nonlinear optical conductivity of a two-band crystal i. *Journal of Physics: Condensed Matter*, 33(46):465701, aug 2021.
- 53 G. B. Ventura, D. J. Passos, J. M. Viana Parente Lopes, and J. M. B. Lopes dos Santos. Comment on “jerk current: A novel bulk photovoltaic effect”. *PHYSICAL REVIEW LETTERS*, 126(25), JUN 25 2021.
- 52 M. F. C. Martins Quintela and J. M. B. Lopes dos Santos. A polynomial approach to the spectrum of dirac-weyl polygonal billiards. *JOURNAL OF PHYSICS-CONDENSED MATTER*, 33(3), JAN 20 2021.
- 51 G. B. Ventura, D. J. Passos, J. M. Viana Parente Lopes, and J. M. B. Lopes dos Santos. A study of the nonlinear optical response of the plain graphene and gapped graphene monolayers beyond the dirac approximation. *JOURNAL OF PHYSICS-CONDENSED MATTER*, 32(18), MAY 1 2020.
- 50 J. P. Santos Pires, N. A. Khan, J. M. Viana Parente Lopes, and J. M. B. Lopes dos Santos, Global delocalization transition in the de Moura–Lyra model, *Phys. Rev. B*. 99, 205148 (May, 2019). doi: {10.1103/PhysRevB.99.205148}. URL <https://link.aps.org/doi/10.1103/PhysRevB.99.205148>.
- 49 N. A. Khan, J. M. Viana Parente Lopes, J. P. Santos Pires, and J. M. B. Lopes dos Santos, Spectral functions of one-dimensional systems with correlated disorder, *JOURNAL OF PHYSICS-CONDENSED MATTER*. 31(17) (MAY 1, 2019) doi: {10.1088/1361-648X/ab03ad}.
- 48 D. Passos, G. Ventura, J. Viana Parente Lopes, J. Lopes Dos Santos, and N. Peres, Nonlinear optical responses of crystalline systems: Results from a velocity gauge analysis, *Physical Review B*. 97(23), (2018). doi: {10.1103/PhysRevB.97.235446}
- 47 G. B. Ventura, D. J. Passos, M. B. Lopes dos Santos, J. M. Viana Parente Lopes, and N. M. R. Peres. Gauge covariances and nonlinear optical responses. *PHYSICAL REVIEW B*, 96(3), JUL 24 2017.
- 46 J. L. dos Santos, CARBON NANOTUBES Perfect mismatch, *NATURE PHYSICS*. 10(10), 709–711 (OCT, 2014). ISSN 1745-2473. doi: {10.1038/nphys3108}.
- 45 J N B Rodrigues, N M R Peres, and J M B Lopes dos Santos. **Scattering by linear defects in graphene: a tight-binding approach.** *Journal of Physics: Condensed Matter*, 25(7):075303, 2013.

- 44 J. N. B. Rodrigues, N. M. R. Peres, and J. M. B. Lopes dos Santos. **Scattering by linear defects in graphene: A continuum approach.** *Physical Review B*, 86(21), Dec 12 2012.
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