



# Rui Emanuel Ferreira da Silva

## *Curriculum Vitae*

### Personal Information

Name	Rui Emanuel Ferreira da Silva
Birthplace	Porto, Portugal
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### Professional Summary

I got my **BSc in physics with minor in chemistry** at Porto University, Portugal, in 2010 with a final grade of **18 out of 20**. I pursued my studies at Universidad Autónoma de Madrid in an **European Master in theoretical and computational chemistry**, finishing with a final grade of **9.4 out of 10**. This hybrid formation provide me with a broad background in physics, chemistry and computational techniques.

In 2012, I joined the group of Prof. Fernando Martín and started my PhD thesis under the subject of “Study of diatomic molecules under intense laser pulses”. I was awarded with a **PhD grant from the Portuguese government** in 2012, where I was placed **first in the area of Physics**. Within the research done in my PhD thesis, I learned and mastered the area of strong field physics and a special emphasis was given to **high performance computing** to solve quantum dynamics problems. Some important contributions to the topic of **correlated electron and nuclear dynamics** upon laser excitation were published including one **Phys. Rev. Letters**. Also work on the **high harmonic spectroscopy in diatomic molecules** resulting in a publication in **Scientific Reports**. During my PhD, I co-supervised the Master Thesis of Manuel Lara-Astiaso on the topic of **HHG in  $H_2^+$  using chirped laser pulses**, work published in **Phys. Rev. Letters**.

After the completion of my PhD in 2016, I moved to the Max Born Institut, Berlin, where I started working with Prof. Mikhail Ivanov on the subject of high harmonic generation in solids. A ground breaking work published in 2018 in **Nature Photonics** on the **high harmonic generation spectroscopy of ultrafast insulator-to-metal phase transition** is now opening the door for experiments in which phase transitions can be resolved in time by looking at the HHG response. A recent work, published in **Nature Photonics** in 2019 on **high harmonic generation on topological insulators** provide new ways to probe topological phase transitions. In collaboration with an experimental group at the Weizmann Institute, Israel, we were able to see the effects of **Van Hove singularities in the high harmonic response of  $MgO$** , a work that was recently published in **Nature Photonics**.

In 2018, I moved to the MMUSCLES group led by Johannes Feist, and started to study ultrafast molecular polaritonics, changing completely my research field. Within this project, we proposed an original setup for the study of **ultrafast molecular dynamics using plasmonic nanocavities**, a theoretical work published in **Nature Communications**.

In 2021, I was awarded with a **Juan de la Cierva Incorporación Fellowship**, that I have declined to accept the LaCaixa Junior Leader - Retaining fellowship. In March 2021, I was awarded with the highly competitive **LaCaixa Junior Leader - Retaining** fellowship to **start my own group at the Instituto de Ciencias de Materiales de Madrid**. I was **ranked first among 186 applications** in the panel of **Physical Sciences, Mathematics and Engineering**.

In 2022, I was awarded a spanish national project (**Proyectos de Generación de Conocimiento 2021**) as **PI**, with Pablo San-José from ICMC also as PI, in the topic of “Many-body attosecond optoelectronics in two-dimensional crystals”. The project will have a funding of 96.800€ and will count also with an additional PhD student (FPI grant).

Regarding scientific publications, I have 20 published/accepted peer-reviewed articles, including **many high-impact papers (5 Nature Photonics, 2 Physical Review Letters and 1 Nature Communications)**. Additionally, I have 5 submitted manuscripts. These publications provide the following quality indices (data last updated 28.07.2022):

Sum of the Times Cited: 463 (Web Of Science), 707 (Google Scholars)

h-index: 12 (Web of Science), 13 (Google Scholars)

i10-index: 13 (Web of Science), 15 (Google Scholars)

Of these **20 publications, eleven are first-author papers** (3 Nature Photonics, 1 Nature Communications and 1 PRB also as corresponding author, 1 PRL, 3 PRA, 1 Scientific Reports, 1 JPCA and 1 Optics Express). I have presented my work at over **30 international conferences**, workshops, and seminars, with **7 invited talks**.

During my career, I have done several peer-reviews for Nature Physics, Physical Review Letters, Physical Review A, Journal of Chemical Physics, Journal of Physical Chemistry A, Optics Express and The European Physical Journal B.

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## Education

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|-----------|---|
| 2012–2016 | <b>PhD in Theoretical Chemistry and Computational Modelling</b> , <i>Universidad Autónoma de Madrid</i> , Madrid, Spain.<br>Grade: <b>summa cum laude</b> and <b>international mention</b><br>Title: <i>Study of diatomic molecules under short intense laser pulses</i><br>Supervisors: Fernando Martín, Paula Rivière<br>Description: Study of the laser-matter interaction in diatomic molecules with state-of-art numerical codes to solve the Time Dependent Schrödinger equation. Development of analytical models to a deeper understanding of the molecular processes under the presence of a strong laser field. |
| 2010–2012 | <b>European Master in Theoretical Chemistry and Computational Modelling</b> , <i>Universidad Autónoma de Madrid</i> , Madrid, Spain.<br>Grade: <b>9.4/10.0</b><br>Title: <i>Computation of photoelectron and proton kinetic energy spectra in molecular ionization and dissociation</i><br>Supervisors: Fernando Martín, Paula Rivière<br>Description: Development of numerical methods to extract physical observables from numerical grid calculations. Extension of the Resolvent Operator Method to molecular systems.  |
| 2007–2010 | <b>Bachelor in Physics with minor in Chemistry</b> , <i>Universidade do Porto</i> , Porto, Portugal.<br>Grade: <b>18/20</b>   |
| 2004–2007 | <b>High School technical degree in Chemistry, Environment and Quality</b> , <i>Colégio Internato dos Carvalhos</i> , Gaia, Portugal.<br>Grade: <b>18/20</b>   |

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## Professional Experience

- September 2021 current **LaCaixa Junior Leader Retaining at the ICMM-CSIC**, *Junior Leader*, Madrid, Spain.  
Developing theoretical models and numerical methods to deal with the new challenges of extreme photonics in condensed matter.
- 2018–2021 **Postdoc Researcher at the Universidad Autónoma de Madrid**, *Dr. Johannes Feist*, Madrid, Spain.  
Developing theoretical models and numerical methods to deal with the new challenges of polaritonic chemistry.
- 2016–2018 **Postdoc Researcher at the Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy (MBI)**, *Prof. Misha Ivanov*, Berlin, Germany.  
Developing numerical codes and analytical models in the context of strong field physics in condensed matter systems.
- 2012–2016 **PhD student at the Universidad Autónoma de Madrid**, *Prof. Fernando Martín*, Madrid, Spain.  
PhD in the field of theoretical molecular strong-field physics.
- 2012 **Invited Researcher at the Centre Lasers Intenses et Applications (CELIA)**, *Dr. Henri Bachau*, Bordeaux, France.  
Brief stage of 3 months within the final project of my Master Thesis.

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## Courses

- 2021 **Course Emergence of Quantum Phases in Novel Materials**, ICMM-CSIC, Madrid, Spain
- 2019 **Tensor Network approached to Quantum Many-Body Systems, TENSOR19**, San Sebastian, Spain
- 2017 **Massive Computation for Ultrafast Molecular Breaking, MACUMB**, Red Española de Supercomputación, Universidad Autónoma de Madrid, Madrid, Spain
- 2016 **Machine Learning**, Stanford University, Coursera
- 2015 **School on New Computational Methods for Attosecond Molecular Dynamics**, ZCAM, Zaragoza, Spain
- 2014 **PhD School and Scientific meeting of the INT network CORINF on Correlated Multi-electron Dynamics in Intense Light Fields**, Cargese, France
- 2012 **Parallel Computation in MPI**, October 2012, The Foundation of Supercomputing Center of Castile and León (FCSCL), León, Spain
- 2012 **PhD School and Scientific meeting of the INT network CORINF on Correlated Multi-electron Dynamics in Intense Light Fields**, Dresden, Germany
- 2011 **TCCM European School on Molecular Excited States**, ZCAM, Zaragoza, Spain
- 2009 **Short course on Scientific Computing in Python**, Universidade do Porto, Porto, Portugal

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## Professional Skills

- Quantum Physics
- Strongly Correlated Physics
- Physics of Complex Systems
- Molecular Polaritonics
- Machine Learning
- Computational Physics
- Atomic and Molecular Physics
- Attophysics
- Condensed Matter Physics
- Data Science

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## Computer skills

OS	Linux (Expert), Windows (Advanced)
Programming languages	Fortran (Expert), Python (Expert), Julia (Advanced), C/C++ (Advanced), Bash (Advanced), JAVA (Basic)
Parallel Computing	MPI (Distributed memory), OpenMP (Shared memory)
Scientific Computing	Matlab, Mathematica, Numpy, Scipy, Petsc (linear algebra)
Version Control	SVN, Git
IDE	Eclipse, Vim
Plotting	gnuplot, xmgrace, matplotlib, Inkscape
Typography	L <sup>A</sup> T <sub>E</sub> X, L <sup>A</sup> X
Office Software	Microsoft Office, LibreOffice

## Languages

Portuguese	Native
Spanish	Fluent
English	Fluent

*IELTS certificate*

## Honors and Awards

2021	<b>Ranked 1st among 186 applications in the Physical Sciences, Mathematics and Engineering panel</b> , La Caixa Junior Leader - Retaining fellowship 2020, Spain/Portugal
2013	<b>First place in the national call for the PhD grants in the area of Physics</b> , FCT funding agency, Portugal
2011	<b>Poster session prize</b> , FEMTO 10, The 2011 conference on Femtochemistry, Madrid, <i>Study of the autoionizing decay of optically forbidden H<sub>2</sub> doubly excited states by using XUV-pump-IR-probe schemes with attosecond resolution</i>
2007	<b>Silver Medal</b> , XII Iberoamerican Chemistry Olympiad, SBQ, Rio de Janeiro, Brasil
2007	<b>Participation at the XXXIX International Chemistry Olympiad</b> , Moscow State University, Moscow, Russia
2006	<b>Silver Medal</b> , Portuguese Chemistry Olympiad, SPQ, Aveiro, Portugal

## Academic Positions and Grants

2022-2025	<b>PI (alongside Pablo San-José) Spanish National Project PID2021-122769NB-I00</b> , ICMM-CSIC, 96.800€ and a PhD scholarship (FPI), Spain.
2021-2024	<b>LaCaixa Postdoctoral Junior Leader – Retaining fellowship</b> , ICMM-CSIC, Madrid, Spain.
2021	<b>Juan de la Cierva - Incorporación Fellowship, 2019 call (declined)</b> , Universidad Autónoma de Madrid, Madrid, Spain.
2018–2021	<b>Postdoc research contract</b> , Universidad Autónoma de Madrid, Madrid, Spain.
2016–2018	<b>Postdoc research contract</b> , Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy (MBI), Berlin, Germany.
2013–2016	<b>PhD grant from Portuguese Government, Fundação para a Ciência e a Tecnologia (FCT)</b> , Universidad Autónoma de Madrid, Madrid, Spain.
2011–2013	<b>Marie Curie Early Stage Researcher from the ITN CORINF Network</b> , Universidad Autónoma de Madrid, Madrid, Spain.
2010–2011	<b>Erasmus Mundus Scholarship, European Master in Theoretical Chemistry and Computational Modelling</b> , Universidad Autónoma de Madrid, Madrid, Spain.

- 2009–2010 **Grant for Scientific Initiation in Electrochemistry from Portuguese Government, Fundação para a Ciência e a Tecnologia (FCT), CIQ-UP, Universidade do Porto,** Porto, Portugal.
- 2009–2010 **Member of the Statutory Assembly, Faculdade de Ciências da Universidade do Porto,** Porto, Portugal.

## Scientific Activity

Scientific Articles (\* for corresponding author and † for co-first author)

- 21 Reconstruction of attosecond beating by interference of two-photon interband transitions in solids  
**R. E. F. Silva**, and Á. Jiménez-Galán  
*Phys. Rev. A*, 16, 428 (2022), doi: [10.1103/PhysRevA.106.053103](https://doi.org/10.1103/PhysRevA.106.053103)
- 20 All-optical valley switch and clock of electronic dephasing  
**R. E. F. Silva**, M. Ivanov, and Á. Jiménez-Galán  
*Optics Express*, 30, 30347 (2022), doi: [10.1364/OE.460291](https://doi.org/10.1364/OE.460291)
- 19 Observation of light-driven band structure via multiband high-harmonic spectroscopy  
A. Uzan-Narovlansky, Á. Jiménez-Galán, G. Orenstein, **R. E. F. Silva**, T. Arusi-Parpar, S. Shames, B. Bruner, B. Yan, O. Smirnova, M. Ivanov, and N. Dudovich  
*Nature Photonics* 16, 428 (2022), doi: [10.1038/s41566-022-01010-1](https://doi.org/10.1038/s41566-022-01010-1)
- 18 Permutational symmetry for identical multilevel systems: A second-quantized approach  
**R. E. F. Silva\***, and J. Feist  
*Phys. Rev. A* 105, 023250 (2022), doi: [10.1103/PhysRevA.105.043704](https://doi.org/10.1103/PhysRevA.105.043704)
- 17 Tracking ultrafast solid-state dynamics using high harmonic spectroscopy  
M. R. Bionta, E. Haddad, A. Leblanc, V. Gruson, P. Lassonde, H. Ibrahim, J. Chaillou, N. Émond, M. R. Otto, Á. Jiménez-Galán, **R. E. F. Silva**, M. Ivanov, B. J. Siwick, M. Chaker, and F. Légaré  
*Phys. Rev. Research* 3, 023250 (2021), doi: [10.1103/PhysRevResearch.3.023250](https://doi.org/10.1103/PhysRevResearch.3.023250)
- 16 Sub-cycle valleytronics: control of valley polarization using few-cycle linearly polarized pulses  
Á. Jiménez-Galán, **R. E. F. Silva**, O. Smirnova, and M. Ivanov  
*Optica* 8, 277 (2021), doi: [10.1364/OPTICA.404257](https://doi.org/10.1364/OPTICA.404257)
- 15 Impact of Vibrational Modes in the Plasmonic Purcell Effect of Organic Molecules  
D. Zhao, **R. E. F. Silva**, C. Climent, J. Feist, A. I. Fernández-Domínguez, and F. J. García-Vidal  
*ACS Photonics* 7, 3369 (2020), doi: [10.1021/acsphotonics.0c01095](https://doi.org/10.1021/acsphotonics.0c01095)
- 14 Lightwave control of topological properties in 2D materials for sub-cycle, non-resonant valley manipulation  
Á. Jiménez-Galán, **R. E. F. Silva\***†, O. Smirnova, and M. Ivanov  
*Nature Photonics* 14, 728 (2020), doi: [10.1038/s41566-020-00717-3](https://doi.org/10.1038/s41566-020-00717-3)
- 13 Polaritonic Molecular Clock: All-Optical Ultrafast Imaging of Wavepacket Dynamics without Probe Pulses  
**R. E. F. Silva\***, J. del Pino, F. J. García-Vidal, and J. Feist  
*Nature Communications* 11, 1423 (2020), doi: [10.1038/s41467-020-15196-x](https://doi.org/10.1038/s41467-020-15196-x)
- 12 Attosecond spectral singularities in solid-state high-harmonic generation  
A. J. Uzan, G. Orenstein, Á. Jiménez-Galán, C. McDonald, **R. E. F. Silva**, B. D. Bruner, N. D. Klimkin, V. Blanchet, T. Arusi-Parpar, M. Krüger, A. N. Rubtsov, O. Smirnova, M. Ivanov, B. Yan, T. Brabec, and N. Dudovich  
*Nature Photonics* 14, 183 (2020), doi: [10.1038/s41566-019-0574-4](https://doi.org/10.1038/s41566-019-0574-4)



- 11 Cumulant expansion for the treatment of light-matter interactions in arbitrary material structures  
M. Sánchez-Barquilla, **R. E. F. Silva**, and J. Feist  
*J. Chem. Phys.* 152, 034108 (2020), doi: [10.1063/1.5138937](https://doi.org/10.1063/1.5138937)
- 10 High harmonic generation in crystals using Maximally Localized Wannier functions  
**R. E. F. Silva\***, F. Martín, and M. Ivanov  
*Phys. Rev. B* 100, 195201 (2019), doi: [10.1103/PhysRevB.100.195201](https://doi.org/10.1103/PhysRevB.100.195201)
- 9 Topological strong-field physics on sub-laser-cycle timescale  
**R. E. F. Silva\***, Á. Jiménez-Galán, B. Amorim, O. Smirnova, and M. Ivanov  
*Nature Photonics* 13, 849-854 (2019), doi: [10.1038/s41566-019-0516-1](https://doi.org/10.1038/s41566-019-0516-1)
- 8 High harmonic spectroscopy of ultrafast many-body dynamics of strongly correlated systems  
**R. E. F. Silva\***, Igor V. Blinov, Alexey N. Rubtsov, O. Smirnova, and M. Ivanov  
*Nature Photonics* 12, 266-270 (2018), doi: [10.1038/s41566-018-0129-0](https://doi.org/10.1038/s41566-018-0129-0)
- 7 Even harmonic generation in isotropic media of dissociating homonuclear molecules  
**R. E. F. Silva**, P. Rivière, F. Morales, O. Smirnova, M. Ivanov, and F. Martín  
*Scientific Reports* 6, 32653 (2016), doi: [10.1038/srep32653](https://doi.org/10.1038/srep32653)
- 6 Enhancing High-Order Harmonic Generation in Light Molecules by Using Chirped Pulses  
M. Lara-Astiaso, **R. E. F. Silva**, A. Gubaydullin, P. Rivière, C. Meier, and F. Martín  
*Phys. Rev. Lett.* 117, 093003 (2016), doi: [10.1103/PhysRevLett.117.093003](https://doi.org/10.1103/PhysRevLett.117.093003)
- 5 Energy- and angle-resolved ionization of  $H_2^+$  interacting with xuv subfemtosecond laser pulses  
**R. E. F. Silva\***, F. Catoire, P. Rivière, H. Bachau, and F. Martín  
*Phys. Rev. A* 92, 013426 (2015), doi: [10.1103/PhysRevA.92.013426](https://doi.org/10.1103/PhysRevA.92.013426)
- 4 Molecular Resolvent-operator method: Electronic and nuclear dynamics in strong-field ionization  
F. Catoire, **R. E. F. Silva**, P. Rivière, H. Bachau, and F. Martín  
*Phys. Rev. A* 89, 023415 (2014), doi: [10.1103/PhysRevA.89.023415](https://doi.org/10.1103/PhysRevA.89.023415)
- 3 Correlated Electron and Nuclear Dynamics in Strong Field Photoionization of  $H_2^+$   
**R. E. F. Silva**, F. Catoire, P. Rivière, H. Bachau, and F. Martín  
*Phys. Rev. Lett.* 110, 113001 (2013), doi: [10.1103/PhysRevLett.110.113001](https://doi.org/10.1103/PhysRevLett.110.113001)
- 2 Pump-Probe Scheme To Study the Autoionization Decay of Optically-Forbidden  $H_2$  Doubly Excited States  
P. Rivière, **R. E. F. Silva**, and F. Martín  
*J. Phys. Chem. A* 116, 11304-11310 (2012), doi: [10.1021/jp3053136](https://doi.org/10.1021/jp3053136)
- 1 Autoionizing decay of  $H_2$  doubly excited states by using xuv-pump-infrared-probe schemes with trains of attosecond pulses  
**R. E. F. Silva**, P. Rivière, and F. Martín  
*Phys. Rev. A* 85, 063414 (2012), doi: [10.1103/PhysRevA.85.063414](https://doi.org/10.1103/PhysRevA.85.063414)

## Supervisions

- 2021- Supervision of the PhD Thesis of Eduardo Bernal Molinero, ICMM-CSIC, *Interaction of intense ultrafast laser pulses with periodic structures*.
- 2015 Co-supervision of the Master Thesis of Manuel Lara Astiaso, Universidad Autónoma de Madrid, *Control in high harmonic generation in the molecular hydrogen ion*.

## Oral presentations

- **8th International Conference on Attosecond Physics (ATTO 2022)**, Orlando, USA, July 2022  
Contributed talk: *Polaritonic molecular clock for all-optical ultrafast imaging of wavepacket dynamics without probe pulses*.

- **Optica On-Chip High-Field Nanophotonics Incubator Meetings**, Washington DC, USA, July 2022  
Invited talk: *High harmonic generation from a Wannier perspective.*
- **IFIMAC+ICMM Joint Seminar Series**, Madrid, Spain, November 2021  
Invited seminar: *High Harmonic Spectroscopy of Strongly Correlated and Topological Materials.* [Youtube Link](#)
- **Graphene2021**, Grenoble, France, October 2021  
Contributed talk: *Lightwave Control of Topological Properties in 2D Materials for Sub-Cycle and Non-Resonant Valley Manipulation.*
- **Polariton Chemistry Webminars**, virtual meeting, January 2021  
Contributed talk: *Polaritonic Molecular Clock.* [Youtube Link](#)
- **QuantumMatter@PT colloquium**, virtual meeting, December 2020  
Invited seminar: *High harmonic spectroscopy of strongly correlated and topological materials.* [QuantumMatter@PT Video Link](#)
- **CMD2020GEFES**, virtual meeting, September 2020  
Invited talk: *High harmonic spectroscopy of strongly correlated and topological materials.* [Youtube Link](#)
- **Atomic Physics 2019 Workshop**, Dresden, Germany, November 2019  
Invited talk: *Polaritonic Molecular Clock: All-Optical Ultrafast Imaging of Wavepacket Dynamics without Probe Pulses*
- **10th IMAMPC**, Madrid, Spain, June 2019  
Invited talk: *Study of non-Markovian dynamics in organic polaritons induced by a multimode coherent field*
- **TUMIEE (COST action), First Working Group meeting 2018**, Porto, Portugal, March 2019  
Contributed talk: *High harmonic generation spectroscopy of laser induced phase transitions in strongly correlated systems*
- **QUTIF Young Researcher Meeting 2018**, Berlin, Germany, December 2018  
Invited talk: *A tree tensor network approach to the study of organic polaritons*
- **International Workshop Attosecond Physics at the Nanoscale**, Daejeon, South Korea, November 2018  
Invited talk: *Study of non-Markovian dynamics in organic polaritons induced by a multimode coherent field*
- **European XFEL**, Hamburg, Germany, February 2018  
Seminar: *High harmonic generation spectroscopy of laser induced phase transitions in strongly correlated systems*
- **6th International Conference on Attosecond Physics (ATTO 2017)**, Xian, China, July 2017  
Contributed talk: *High harmonic generation spectroscopy of laser induced phase transitions in strongly correlated systems*
- **2017 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference**, Munich, Germany, June 2017  
Contributed talk: *High harmonic generation spectroscopy of laser induced phase transitions in strongly correlated systems*
- **48th Annual DAMOP Meeting**, Sacramento, California, USA, June 2017  
Contributed talk: *High harmonic generation spectroscopy of laser induced phase transitions in strongly correlated systems*
- **MURI Mid-Infrared, Annual Meeting 2017**, Ohio State University, Columbus, Ohio, USA, April 2017  
Talk at project meeting: *High harmonic imaging of ultrafast many-body dynamics in strongly correlated systems*

- **Atomic Physics 2016 Workshop**, MPIPKS, Dresden, Germany, November 2016  
Invited talk: *Ultrafast high harmonic spectroscopy of dielectric breakdown in strongly correlated systems*
- **Max-Born-Institut**, Berlin, Germany, June 2016  
Seminar: *HHG in the 1D Fermi-Hubbard model*
- **Max-Born-Institut**, Berlin, Germany, September 2015  
Seminar: *Resolvent operator method on a full dimensional calculation of the  $H_2^+$  molecule*
- **Final meeting of the Marie Curie Initial Training Network CORINF**, London, United Kingdom, March 2015  
Seminar: *Resolvent operator method on a full dimensional calculation of the  $H_2^+$  molecule*
- **Universidad Autónoma de Madrid**, Madrid, Spain, March 2015  
Seminar: *Resolvent operator method on a full dimensional calculation of the  $H_2^+$  molecule*
- **Universidade do Porto**, Porto, Portugal, May 2013  
Seminar: *Molecular Strong-Field Ionization: a resolvent view*
- **V Jornadas de Jóvenes Investigadores en Física Atómica y Molecular**, Madrid, Spain, February 2013  
Contributed talk: *Electron and nuclear dynamics of  $H_2^+$  induced by intense ultrashort laser pulses*
- **Universidad Autónoma de Madrid**, Madrid, Spain, November 2012  
Seminar: *Electron and nuclear dynamics of  $H_2^+$  induced by intense ultrashort laser pulses*

## Poster presentations

- **SCOM 2021**, Chalmers (virtual meeting), Sweden, 2021  
Poster: *Polaritonic Molecular Clock: All-Optical Ultrafast Imaging of Wavepacket Dynamics without Probe Pulses*
- **Quantum Nanophotonics**, Benasque (virtual meeting), Spain, 2021  
Poster: *Polaritonic Molecular Clock: All-Optical Ultrafast Imaging of Wavepacket Dynamics without Probe Pulses*
- **E3SMadrid 2020**, Madrid, Spain, 2020  
Poster: *Polaritonic Molecular Clock: All-Optical Ultrafast Imaging of Wavepacket Dynamics without Probe Pulses*
- **Tensor Network approached to Quantum Many-Body Systems (TENSOR19)**, San Sebastian, Spain, 2019  
Poster: *Study of non-Markovian dynamics in organic polaritons induced by a multimode coherent field*
- **Ultrafast Science & Technology Spain 2019**, Madrid, Spain, 2019  
Poster: *Polaritonic Molecular Clock: All-Optical Ultrafast Imaging of Wavepacket Dynamics without Probe Pulses*
- **Molecular Polaritonics 2019**, Madrid, Spain, 2019  
Poster: *Polaritonic ultrafast imaging of molecular dynamics*
- **Ultrafast Quantum Phenomena in the Near Field, WE-Heraeus-Seminar**, Bad Honnef, Germany, 2019  
Poster: *Study of non-Markovian dynamics in organic polaritons induced by a multimode coherent field*
- **XXV International Summer School ‘Nicolás Cabrera’ Manipulating Light and Matter at the Nanoscale**, Madrid, Spain, 2018  
Poster: *Study of non-Markovian dynamics in organic polaritons induced by a multimode coherent field*
- **SCOM18, Strong Coupling in Organic Molecules**, Eindhoven, The Netherlands, 2018  
Poster: *High harmonic generation spectroscopy of laser induced phase transitions in strongly correlated systems*



- **Ultrafast Imaging of Photochemical Dynamics: Faraday Discussion**, Edinburgh, United Kingdom, 2016  
Poster: *HHG in the 1D Fermi-Hubbard model*
- **2nd XLIC WG1 Meeting – Ultrafast electron dynamics in molecules**, Edinburgh, United Kingdom, 2016  
Poster: *HHG in the 1D Fermi-Hubbard model*
- **XXIX International Conference on Photonic, Electronic, and Atomic Collisions (ICPEAC 2015)**, Toledo, España, 2015  
Poster (I): *High harmonic generation from  $H_2^+$  and its isotopes*  
Poster (II): *Molecular Resolvent Operator for  $H_2^+$  molecule*
- **1st XLIC WG1 meeting**, London, United Kingdom, 2014  
Poster: *Molecular Resolvent Operator for  $H_2^+$  molecule*
- **1st XLIC General Meeting and CORINF Annual Workshop**, Madrid, Spain, 2013  
Poster: *Correlated electron and nuclear dynamics in strong field photoionization of  $H_2^+$*
- **International Symposium on Ultrafast Intense Laser Science (ISUILS 2013)**, Salamanca, Spain, 2013  
Poster: *Correlated electron and nuclear dynamics in strong field photoionization of  $H_2^+$*
- **4th International Conference on Attosecond Physics (ATTO 2013)**, Paris, France, 2013  
Poster: *The resolvent operator method for molecules: correlated electron and nuclear dynamics in  $H_2^+$  photoionization*
- **Workshop on Super Intense Laser-Atom Physics (SILAP 2012)**, Suzhou, China, 2012  
Poster: *Electron and nuclear dynamics of  $H_2^+$  induced by intense ultrashort laser pulses*
- **4th annual meeting of the COST Action CUSPFEL**, Cluj, Romania, 2012  
Poster: *Study of the autoionizing decay of  $H_2$  doubly excited states by using XUV-pump-IR-probe schemes with attosecond resolution*
- **FEMTO 10, The 2011 conference on Femtochemistry**, Madrid, Spain, 2011  
Poster: *Study of the autoionizing decay of optically forbidden  $H_2$  doubly excited states by using XUV-pump-IR-probe schemes with attosecond resolution*