

Curriculum Vitae

Luca Argenti, PhD
Assistant Professor

• CONTACT INFORMATION

UCF Department of Physics & CREOL
4111, Libra Drive, Physical Sciences Bldg. 430
Orlando, FL 32816 USA
tel : +1 407 823 2325
e-mail: luca.argenti@ucf.edu
researcher-id: D-2546-2015
orcid: 0000-0003-1093-4379

• EDUCATION

- Sep 10th 2008: Ph.D. in Chemistry (70/70 *magna cum laude*), [Scuola Normale Superiore di Pisa](#), Italy.
Thesis: *The B-Spline K-matrix Method in Atomic Physics*. Advisor: R Moccia.
- Nov 22nd 2001: Diploma in Chemistry (70/70 *magna cum laude*), Scuola Normale Superiore di Pisa.
- Nov 21st 2001: Laurea in Chemistry (110/110 *magna cum laude*), University of Pisa.
- Sep 2001: European Summer School in Quantum Chemistry, held by the University of Lund, Sweden.
- Jul 1995: Gold Medal at the 27th Int. Chem. Olympiad, Beijing, China.
- Jun 1995: Highschool diploma (60/60) from ITIS "G. Natta", Padua, Italy.
- Jul 1994: Silver Medal at the 26th Int. Chem. Olympiad, Oslo, Norway.

- TEACHING HABILITATION as: Prof. Ayudante Doctor (lecturer, fixed-term), Prof. Contratado Doctor (lecturer, permanent), Prof. Universidad Privada (professor, private university). July 15th 2014, ANECA, Spain.

• GRANTS / RESEARCH CONTRACTS

- since Mar 2016 : assistant professor of physics (tenure track) at the Department of Physics and CREOL at the University of Central Florida, in Orlando, Florida, US.
- Aug 2010 – Feb 2016: Post doctoral fellowship at the Universidad Autonoma de Madrid (UAM).
- Jan 2009 – Jul 2010: Post doctoral fellowship at Stockholm University.
- Apr 2007 – Nov 2008: Project grant *Molecular Quantum Mechanics: Methods and analysis of new phenomena* from the Appl. Chem. & Mat. Sci. Dep., Bologna University.
- Nov 2005 – Oct 2006: Project grant *Molecular Quantum Mechanics: Methods and analysis of new phenomena* from the Appl. Chem. & Mat. Sci. Dep., Bologna University.
- Jan 2002 – Dec 2004: 3 year graduate-student grant award from Scuola Normale Superiore di Pisa.
- Sep 1995 – Jul 2000: 5 year university-student grant award from Scuola Normale Superiore di Pisa.

- RESEARCH INTERESTS: Quantum dynamics of unbound few-body systems; Theoretical photoelectron spectroscopy of atoms and molecules; Attosecond physics and quantum control in the continuum; Time-resolved non-linear optical response.

• PUBLICATIONS

- Marante C, Klinker M, Corral I, Gonzalez-Vazquez J, Argenti L, and Martín F, J. Chem. Th. Comp. , *in press* (2016) [A hybrid-basis close-coupling interface to quantum chemistry packages for the treatment of ionization problems](#)
- Heuser S, Jiménez Galán Á, Cirelli C, Sabbar M, Boge R, Lucchini M, Gallmann L, Ivanov I, Kheifets A, Dahlström J M, Lindroth E, Argenti L, Martín F, Keller U, Phys. Rev. A **94**, 063409 (2016) [Angular dependence of photoemission time delay in helium](#)
- Gruson V, Barreau L, Jiménez-Galan Á, Risoud F, Caillat J, Maquet A, Carré, Lepetit F, Hergott J-F, Ruchon T, Argenti L, Taïeb R, Martín F, Salières P, Science **354**, 734 (2016) [Attosecond dynamics through a Fano resonance: Monitoring the birth of a photoelectron](#)
- Cheng Y, Chini M, Wang X, González-Castrillo A, Palacios A, Argenti L, Martín F, Chang Z, Phys. Rev. A **94**, 023403 (2016) *Reconstruction of an excited-state molecular wave packet with attosecond transient absorption spectroscopy*
- Argenti L, Moccia R, Phys. Rev. A **93**, 042503 (2016) [Autoionizing states of atomic boron](#)

- Jiménez-Galán Á, Argenti L, Martín F, Phys. Rev. A **93**, 023429 (2016) *Two-photon finite-pulse model for resonant transitions in attosecond experiments*
- Kotur M, Guénot D, Jiménez-Galán Á, Kroon D, Larsen E W, Louisy M, Bengtsson S, Miranda M, Mauritsson J, Arnold C L, Canton S E, Gisselbrecht M, Carette T, Dahlström J M, Lindroth E, Maquet A, Argenti L, Martín F, and L'Huillier A, Nature Commun. **7**, 10566 (2016) *Phase measurement of a Fano window resonance using tunable attosecond pulses*
- Jiménez-Galán Á, Argenti L, Martín F, J. Phys.: Conf. Series **635**, 012005 (2015) *Modulation of attosecond beating by resonant two-photon transition*
- Argenti L, Jiménez Galán Á, Marante C, Ott C, Pfeifer T, Martín F, Phys. Rev. A **91**, 061403(R) (2015) *Dressing effects in the attosecond transient absorption spectra of doubly excited states in helium*
- Ayuso D, Kimura M, Kooser K, Patanen M, Plésiat E, Argenti L, Mondal S, Travnikova O, Sakai K, Palacios A, Kukuk E, Decleva P, Ueda K, Martín F, Miron C, J. Phys. Chem. **119**, 5971 (2015) *Vibrationally resolved B 1s photoionisation cross section of BF₃*
- Jiménez Galán A, Argenti L, Martín F, Phys. Rev. Lett. **113**, 263001 (2014) *Modulation of attosecond beating in resonant two-photon ionization*
- Ott C, Kaldun A, Argenti L, Raith P, Meyer K, Laux M, Zhang Y, Blättermann A, Hagstötz S, Ding T, Heck R, Madroñero J, Martín F, Pfeifer T, Nature **516**, 374 (2014) *Reconstruction and control of a time-dependent two-electron wave packet*
- Patanen M, Kooser K, Argenti L, Ayuso D, Kimura M, Mondal S, Plésiat E, Palacios A, Sakai K, Travnikova O, Decleva P, Kukuk E, Miron C, Ueda K, Martín F, J. Phys. B: At. Mol. Opt. Phys. **47**, 124032 (2014) *Vibrationally resolved C 1s photoionization cross section of CF₄*
- Marante C, Argenti L, Martín F, Phys. Rev. A **90**, 012506 (2014) *Hybrid Gaussian-B-spline basis for the electronic continuum: photoionization of atomic hydrogen*
- Argenti L, J. Phys.: Conf. Series **488**, 012010 (2014) *Ionization and transient absorption control with a resonant attosecond clock*
- Jiménez Galán Á, Argenti L, Martín F, New J. Phys. **15**, 113009 (2013) *The soft-photon approximation in infrared-laser-assisted atomic ionization by extreme-ultraviolet attosecond pulse trains*
- Ueda K, Mirón C, Plésiat E, Argenti L, Patanen M, Kooser K, Ayuso D, Mondal S, Kimura M, Sakai K, Travnikova O, Palacios A, Decleva P, Kukuk E, Martín F, J. Chem. Phys. **139**, 124306 (2013) *Intramolecular photoelectron diffraction in the gas phase*
- Kukuk E, Ayuso D, Thomas T D, Decleva P, Patanen M, Argenti L, Plésiat E, Palacios A, Kooser K, Travnikova O, Mondal S, Kimura M, Sakai K, Mirón C, Martín F, Ueda K., Phys. Rev. A **88**, 033412 (2013) *Effects of molecular potential and geometry on atomic core-level photoemission over an extended energy range: the case study of the CO molecule*
- Argenti L, Pazourek R, Feist J, Nagele S, Liertzer M, Persson E, Burgdörfer J, Lindroth E, Phys. Rev. A **87**, 053405 (2013) *Photoionization of helium by attosecond pulses: extraction of spectra from correlated wave functions*
- Carette T, Dahlström J M, Argenti L, Lindroth E, Phys. Rev. A **87**, 023420 (2013) *Multiconfiguration Hartree-Fock close-coupling ansatz: application to the Ar photoionization cross section and delays*
- Argenti L, Ott C, Pfeifer T, Martín F, [arXiv:1211.2566v1](https://arxiv.org/abs/1211.2566v1), (Nov 2012) *Attosecond transient absorption spectroscopy of doubly-excited states in helium*
- Argenti L, Thomas T D, Plésiat E, Liu X J, Mirón C, Lischke T, Prümper G, Sakai K, Ouchi T, Püttner R, Sekushin V, Tanaka T, Hoshino M, Tanaka H, Decleva P, Ueda K, Martín F, New J. Phys. **14**, 033012 (2012) *Double-slit experiment with a polyatomic molecule: vibrationally resolved C 1s photoelectron spectra of acetylene*
- Plésiat E, Argenti L, Kukuk E, Mirón C, Ueda K, Decleva P, Martín F, Phys. Rev. A **85**, 023409 (2012) *Intramolecular electron diffraction in vibrationally resolved K-shell photoionization of methane*
- Lindroth E, Argenti L, Adv. Quantum Chem. **63**, 247 (2012) *Atomic resonance states and their role in charge-changing processes*
- Argenti L and Moccia R, J. Phys. B: At. Mol. Opt. Phys. **43**, 235006 (2010) *Non-dipole effects in helium photoionization*
- Argenti L and Lindroth E, Phys. Rev. Lett. **105**, 053002 (2010) *Ionization branching ratio control with a resonant attosecond clock*
- Lindroth E, Argenti L, Bengtsson J, Ferro F, Genkin M, Selstø S, J. Phys.: Conf. Series **194**, 012001 (2009) *The structure behind it all*

- Argenti L and Colle R, J. Phys. Chem. A **113**, 15078 (2009) *Two-particle Coulomb Green function method with projected potential: application to He double photoionization.*
- Argenti L, Bolognesi P, Colle R, Feyer V and Avaldi L, Phys. Rev. A **79**, 063408 (2009) *Photo-double-ionization of the ns shell of rare gases*
- Argenti L and Colle R, Comp. Phys. Commun. **180**, 1442 (2009) *On the B-splines effective completeness*
- Argenti L and Colle R, J. Phys. B: At. Mol. Opt. Phys. **41**, 245205 (2008) *A general algorithm for fitting efficiently triple differential cross sections of atomic double photoionizations.*
- Argenti L, At. Data Nucl. Data Tables **94**, 903 (2008) *Rydberg and autoionizing triplet states in helium up to N=5 threshold*
- Argenti L and Moccia R, J. Phys. B: At. Mol. Opt. Phys. **41**, 035002 (2008) *Helium 2 3S photoionization up to N=5 threshold*
- Argenti L and Moccia R, J. Phys. B: At. Mol. Opt. Phys. **40**, 3655 (2007) *3S , $^3P^{o,e}$, $^3D^{e,o}$ resonance series in Helium*
- Argenti L and Moccia R, Th. Chem. Acc. **118**, 485 (2007) *He photoionization: β_n and σ_n below N=5 and N=6 thresholds*
- Argenti L and Moccia R, J. Phys. B: At. Mol. Opt. Phys. **39**, 2773 (2006) *K-matrix method with B-splines: σ_{nl} , β_{nl} and resonances in He photoionization below N=4 threshold*
- INVITED / HOT-TOPIC TALKS
 - *A hybrid-basis close-coupling interface to quantum chemistry packages for the treatment of ionization problems*, 2016 joint Attosecond-MURI annual meeting, Univ. Arizona, Tucson, AZ, USA - November 14th-15th 2016
 - *Attosecond Interferometric Spectroscopy of Resonant Transitions*, ITAMP Workshop *The electronic-structure problem in theoretical strong-field physics*, ITAMP, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, USA - October 10th-14th (2016)
 - *Birth of a resonant photoelectron wavepacket*, 25th Intl. Conf. At. Phys. (ICAP 2016), Seoul, Korea - July 24th-29th 2016
 - *Reconstruction of Electronic and Vibrational Wavepackets with Attosecond Spectroscopies*, 2015 Joint-Attosecond-MURI Annual Meeting University of Central Florida, Orlando, FL, USA - Nov 12th-13th 2015
 - *Attosecond interferometric spectroscopy of resonant two-photon transitions*, 3rd Gen. Meeting of XLIC COST Action CM1204, Debrecen, Hungary - Nov 2nd-4th 2015
 - *Modulation of attosecond beating in resonant two-photon ionization*, Intl. Symp. on: (e,2e), double photoionization and related topics; polarization and correlation in electronic and atomic collisions, San Sebastián, Spain - Jul 30th- Aug 1st 2015
 - *Modulation of attosecond beating in resonant two-photon ionization*, ATTO2015, St-Sauveur, Canada - Jul 6th-10th 2015
 - *Modulation of attosecond beating in resonant two-photon ionization*, Nordita workshop "Control of Ultrafast Quantum Phenomena", Stockholm, Sweden - May 21st 2015
 - *Modulation of attosecond beating in resonant two-photon ionization*, 2nd Gen. Meeting of XLIC COST Action CM1204, Gdansk, Poland - Sep 10th-14th 2014
 - *Time-resolved two-photon atomic transitions involving autoionizing states*, Int. Conf. on Many Particle Spectrosc. At., Mol., Clust. and Surf. (MPS2014), Metz, France - Jul 16th-18th 2014
 - *Ionization and transient absorption control with a resonant attosecond clock*, XXVIII Int. Conf. Phot., El. and At. Collisions (XXVIII ICPEAC), Lanzhou, China - Jul 24th-30th 2013
 - *Attosecond transient absorption spectroscopy of doubly excited states in helium*, XXXVIII Int. Conf. Vac. UV and X-ray Phys. (VUVX2013), Hefei, China - Jul 12th-19th 2013
 - *Interferometric imprint of molecular geometry in high-resolution photoelectron spectra*, Kick-off meeting of COST Action MP1203, Ministry of Research, Paris, France - Apr 4th - 5th 2013
 - *Attosecond transient absorption spectroscopy of doubly excited states in helium*, Int. Workshop At. Phys. (IWAP2012), MPI Complex Sys., Dresden, Germany - Nov 26th-30th 2012
 - *Interferometric imprint of molecular geometry in high-resolution photoelectron spectra*, Annual Workshop Finnish Synch. Rad. Users Org. (FSRUO2012), Turku, Finland - Oct 22nd-23rd 2012

- *Attosecond transient absorption spectroscopy of doubly excited states in helium (hot topic)*, XII Int. Conf. El. Spectrosc. and Struct. (ICCESS2012), Saint-Malo, France - Sep 16th-21st 2012
- *Spectral analysis of correlated wave functions for attosecond photoionization processes*, Int. Workshop At. Phys. (IWAP2011), MPI Complex Sys., Dresden, Germany - Nov 20th-25th 2011
- *Ionization branching ratio control with a resonance attosecond clock (hot topic)*, X Eur. Conf. At., Mol. and Phot. (ECAMP10), Salamanca, Spain - Jul 5th-9th 2010
- *XUV-pump IR-probe investigation of doubly excited states in helium*, COST CM0702 WG1 meeting, Domaine de Masure, Han-sur-Lesse, Belgium - Apr 12th-15th 2010
- *The role of doubly excited states when atoms interact with short laser pulses*, Int. Workshop At. Phys. (IWAP2009), MPI Complex Sys., Dresden, Germany - Nov 23rd-27th 2009
- OTHER ORAL CONTRIBUTIONS TO CONGRESSES:
 - *Theoretical Atomic Attosecond Spectroscopies*, 2016 ISSNAF Awards for Young Investigators, Italian Embassy, Washington DC, USA - October 18th 2016;
 - *Birth of a resonant attosecond wavepacket*, DAMOP 2016, Providence, RI, USA - May 23rd-27th 2016;
 - *Towards an interferometric spectroscopy of metastable wave packet dynamics*,
 - *Vibrationally resolved photoelectron spectroscopy of CH₄: studying electron diffraction from within*, Studying Quantum Mechanics in the Time Domain, Nordita, Albanova Center, Stockholm, Sweden - Aug 22nd - Sep 16th 2011;
 - *Simulating XUV-pump IR-probe experiments in helium: a theoretical real-time investigation of doubly excited states*, Symp. on Trends in Exp. Phys.: multi-particle coincidence spectrosc. of At. and Mol., University of Uppsala, Sweden - May 28th 2010;
 - *Benefits and inconveniences of channel-specific absorption boundaries for the solution of the TDSE*, Time-dependent quantum mechanics - analysis and numerics, Center of Math. for Appl., Oslo, Norway - Apr 28th 2010;
 - *Three-active-electron systems with the B-spline K-matrix method: positions, widths and branching ratios of boron resonances*, Workshop on num. meth. for time-dep. quant. mech.: appl. for laser-at./mol. int., Vestlia Resort AS, Geilo, Norway - Feb 6th 2009;
- OTHER CONTRIBUTIONS TO CONGRESSES (posters):
 - Gordon Research Conference, Multiphoton Processes, Proctor Academy, Andover, NH, USA - June 19th-24th 2016;
 - XXIX Int. Conf. on Phot., El. and At. Collisions (XXIX ICPEAC), Toledo, Spain - July 22nd-28th 2015;
 - Joint meeting XLIC (XUV/X-ray light and fast ions for ultrafast chemistry) - CORINF (Correlated Multielectron Dynamics in Intense Laser Fields), University College London, London, United Kingdom - July 3rd-4th 2014;
 - Joint meeting XLIC (XUV/X-ray light and fast ions for ultrafast chemistry) - CORINF (Correlated Multielectron Dynamics in Intense Laser Fields), Madrid, Spain - Nov 11th-15th 2013;
 - XII Int. Symp. on Ultrafast Intense Laser Science (ISUILS12), Salamanca, Spain - Oct 6th-11th 2013;
 - IV Annual Meeting of the COST Action CM0702, Cluj-Napoca, Romania - Mar 21st-23rd 2012;
 - XXVII Int. Conf. on Phot., El. and At. Collisions (XXVII ICPEAC), Belfast, UK - Jul 27th - Aug 2nd 2011;
 - Conf. on Femtochemistry (FEMTO10), Madrid, Spain - July 10th-15th 2011;
 - COST CM0702 WG-1 Workshop on Methods and Codes for At. and Mol. in Strong Laser Fields, Dublin, Ireland - Apr 27th-30th 2011;
 - Workshop on new light sources, Sønderborg, Denmark - May 27th-29th 2009;
 - COST CM0702 WG-1 Workshop on num. meth. for time dep. Quant. mech.: appl. for laser-at./mol. int. ("Dogme" meeting), Geilo, Norway - Feb 4th-6th 2009;
 - Many particle spectrosc. of At., mol., clust. and surf. (MPS08), Paris, France - Jun 30th - Jul 2nd 2008;
 - XIV Int. Symp. and Correlation in El. and At. Collisions and the Int. Symp. on (e,2e), Double Photoionization and Related Processes, Koenigstein, Germany - Aug 1st-4th 2007;
 - XXV Int. Conf. on Phot., El. and At. Collisions (XXV ICPEAC), Freiburg, Germany - Jul 25th-31st 2007;
 - XXXVIII Conf. of the Eur. Group for At. Sys. (EGAS38), Ischia, Italy - Jun 7th-10th 2006;
 - III Conf. on Elem. Proc. in At. Sys. (CEPAS2005), Miskolc, Hungary - Aug 31st-Sep 2nd 2005;
 - XXXVII Conf. of the Eur. Group for At. Sys. (EGAS37), Dublin, Ireland - Aug 3rd-6th 2005;
- REFEREE FOR: Phys. Rev. Lett.; Phys. Rev. A; Sci. Rep.; New J. Phys.; Optics Express; J. Phys. Chem. Lett.; J. Chem. Th. Comp.; J. Phys. B: At., Mol. Opt. Phys.; Struct. Dyn. (AIP); Eur. Phys. J. D; Cent. Eur. J. Phys.; Chin. Opt. Lett.
- PARTICIPATION IN / DIRECTION OF RESEARCH PROJECTS
 8. Sep 2016 – Aug 2019: Principal Investigator in the NSF project 1607588 *Theoretical Atomic Attosecond Spectroscopy: Monitor and Control of Electron Correlation in Real Time* (~\$288K)
 7. Jan 2014 – Dec 2016: Collaboration researcher in the MINECO project FIS2013-42002-R financed by the Spanish ministry of economy.
Computation in attosecond and material science: breaking the frontier between physics and chemistry.
 6. Jan 2012 – Today: Collaboration researcher in the (FP7/2007-2013)/ERC-2011-AdG 290853-XCHEM *XUV/X-ray lasers for ultrafast electronic control in molecules* (XCHEM).

5. May 2013 – Today: Member of the [COST Action CM1204](#) *XUV/X-ray light and fast ions for ultrafast chemistry (XLIC)*
 4. Jul 2011 – Dec 2011: Principal researcher of the QCM-2011-2-0034 RES Project (Red Española de Supercomputación). Granted resources: 100'000 CPUh.
Interferometric structural characterization of polyatomic molecules in high-energy photoionization
 3. Jan 2010 – Dec 2012: Collaboration researcher in the MICINN project FIS2010-15127 financed by the Spanish ministry of education and science.
Computational modeling of unbound states in atomic and molecular physics
 2. Aug 2010 – Jan 2012: Recipient of the grant SB2009-0029 "Estancias de Jóvenes Doctores Extranjeros en Centros Españoles", financed by the Spanish ministry of education
Effect of nondipole terms and manybody correlation on the multiple fragmentation of atoms and small molecules upon the action of intense subfemtosecond xuv pulses.
 1. Jan 2009 – Apr 2012: Member of the [COST Action CM0702](#). *Chemistry with UltraShort Pulses and Free-Electron Lasers: Looking for Control Strategies Through Exact Computations*
- RESEARCH MISSIONS ABROAD: ● Jan 27th-31st 2014 - Stockholm Univ., Sweden. *Purpose:* Integrate a TDSE solver and a Lippmann-Schwinger equation solver in the suite of Stockholm MCHF close-coupling program for atomic photoionization; ● Apr 19th-23rd 2012 - Dep. Phys., Univ. of Turku, Finland. *Purpose:* Develop a robust model for the parametrization of the data collected at Soleil synchrotron during mission n° 3; ● Feb 22nd-27th 2012 - Soleil synchrotron, Gif-sur-Yvette, France. *Purpose:* Provide on-the-run theoretical guidelines for the measurement of vibrationally-resolved core photoionization cross sections of BF₃, CH₄ and CF₄ molecules from the 1s orbital of the central atom; ● Aug 22nd - Sep 4th 2011 - Stockholm Univ., Sweden. *Purpose:* Design of the Stockholm MCHF close-coupling atomic photoionization code; ● Nov 14th-27th 2010 - TUV, Austria. *Purpose:* Implement a projector on multi-channel B-spline close-coupling scattering states for wave packets computed with a FE-DVR TDSE code developed at TUV in Vienna;
 - TEACHING EXPERIENCE:
 - Fall 2016, Instructor of PHY3220 "Classical Mechanics I", University of Central Florida.
 - 2012-2015 "Laser" course for the [Master in Theoretical Chemistry & Computational Modeling \(MTCCM\)](#). Int. Spring [School on New Computational Methods for Attosecond Molecular Processes](#). ● Undergrad course "Informatics applications in Chemistry" (intro. to molecular simulations with the Spartan program; 66 hours overall, across the last three academic years). ● 2015 General Chemistry seminars for 1st undergraduate students in Environmental Chemistry at UAM, Madrid, Spain (EU). ● Direction of Á Jiménez Galán's master thesis *Attosecond interferometric spectroscopy of doubly excited states in helium*, defended on July 16th 2013, and PhD thesis *Attosecond spectroscopy of autoionizing states*, defended on December 15th 2015. Direction of Carlos Marante's PhD thesis, *Photoelectron spectroscopy of atoms and molecules with novel light sources* (due Dec 2017). ● Designed and execution, with F Martín, of the two calls for 2+2 PhD positions within the [XCHEM](#) ERC adv. grant.
 - ORGANIZATION OF EVENTS: ● Spring [School on New Computational Methods for Attosecond Molecular Processes](#), Mar 16th – 20th 2015, ZCAM, Zaragoza, Spain. ● Chair of the "Young Scientists Session", Nov 2013, Meeting of the Int. Training Network [Correlated Multielectron dynamics in Intense Laser Fields \(CORINF\)](#) at IMDEA-Nanociencia, UAM, Spain.
 - IT SKILLS: Experienced programmer in scientific computation (mostly, Fortran 2003). Unix-based systems (Mac OSX, Linux) and applications for editing, computation, graphics, project management, revision control, etc.
 - KNOWN LANGUAGES: Italian (mother tongue), English (proficient), French (good), Spanish (very good).
 - MEMBER OF: the Institute Of Physics (IOP), American Physical Society (APS), the Royal Spanish Physical Society.