



PROFESSIONAL EXPERIENCE:

2025 Founder and CEO at Serendipia Science LLC, Sheridan, Wyoming 82801, USA.

2023 - 2025 Research Scientist

International Space Federation ISF, 6 Route de Malagnou, 1208 Genève, Switzerland.

2018-2023 Research Scientist

TorusTech LLC & Resonance Science Foundation, Calle Negocio, C #228 San Clemente, CA 92673, USA.

2018-2018 Data Scientist (10 months)

S2G, Calle. Gob. Melchor Muzquiz, CP. Ciudad de México, México.

2016-2018 Research Affiliate

Hawaii Institute of Unified Physics (HIUP), Kauai 1440, Hawaii, USA

2015-2016 Research Fellow

Laboratoire de Chimie Théorique (LCT) Université Pierre et Marie Curie, Paris, France.

2013-2014 Research Fellow CNRS

L'Institut des Sciences Moléculaires d'Orsay, Université Paris SUD, 91405 Orsay, France.

2012-2013 Research Fellow NSF-ANR

Laboratoire de Chimie Théorique, Université Pierre et Marie Curie, Paris, France.

2011-2012 Visiting Professor

Instituto de Física Luís Rivera Terrazas, Benemérita Universidad Autónoma de Puebla, MX.

2009-2011 Post-Doctoral Fellow CONACYT

Instituto de Física Luís Rivera Terrazas (IFUAP), Benemérita Universidad Autónoma de Puebla, Pue., México.

- 2008-2009 **Post-Doctoral Fellow (INEST)**
Clearpoint Resources Inc., Scientific Division, Virginia Biotechnology Research Park Richmond, Virginia, USA and Laboratoire de Photophysique Moléculaire, Orsay, France
- 2008-2008 **Research Professor**
Chemistry department, Universidad Simón Bolívar, Caracas, Venezuela. (Position not accepted for personal reasons due to the political situation in Vnzla).
- 2007-2008 **Attaché Temporaire d'Enseignement/Recherche (ATER)**
Physics Laboratory, Université de Paris SUD Orsay CEDEX, France.
- 2001-2002 **Teaching assistant**
Physical Chemistry III, Universidad Simón Bolívar, Caracas, Venezuela.
- 2000-2001 **Teaching assistant**
General Chemistry Laboratory I, Universidad Simón Bolívar, Caracas, Venezuela.
- 1999-2000 **Research assistant**
Quantum Optics Laboratory, Physics Department, IVIC (Instituto Venezolano de Investigaciones Científicas), Estado Miranda, Venezuela.

RESEARCH PUBLICATIONS:

- 19 Urdaneta I., **The Zitterbewegung Electron Puzzle**, *Phys. Essays*, **36**, 299 (2023).
- 18 E. Luppi, [I.Urdaneta](#), M. Calatayud, **Photoactivity of Molecule-TiO₂ Clusters with Time-Dependent Density-Functional Theory**, *J. Phys. Chem. A*, **120**, pp 5115–5124 (2016).
- 17 D. Finkelstein-Shapiro, [I.Urdaneta](#), M. Calatayud, O. Atabek, V. Mujica and A. Keller, **Fano-Liouville Spectral Signatures in Open Quantum Systems**, *PRL* **115**, 113006, (2015).
- 16 [I.Urdaneta](#), A. Keller, O. Atabek, J. L. Palma, D. Finkelstein-Shapiro, P. Tarakeshwar, V. Mujica and M. Calatayud, **Dopamine Adsorption on TiO₂ anatase surfaces**, *J. Chem. Phys. C*, **118**, 20688–20693, (2014).
- 15 P. Tarakeshwar, J. L. Palma, A. Keller, [I.Urdaneta](#), M. Calatayud, O. Atabek and V. Mujica, **SERS as a probe of charge-transfer pathways in hybrid dye/molecule-metal oxide complexes**, *J. Phys. Chem. C* **118**, 3774-3782 (2014).
- 14 [I.Urdaneta](#), J. Pilme, M. Calatayud, O. Atabek, T. Pilariseti, V. Mujica and A. Keller, **Probing Raman enhancement in a Dopamine-Ti₂O₄ hybrid using stretched molecular geometries**, *J.Phys.Chem. A*, **118**, 1196-1202 (2013).
- 13 Palma A., Urdaneta I., and Sandoval L., **On the algebraic approach to the Caldirola Kanai Hamiltonian**. *FJMS*, **108 – 2**, 357-362 (2012)
- 12 L. Sandoval, [I.Urdaneta](#) and A. Palma, **Franck-Condon Factors for diatomic molecules for an arbitrary anharmonic potential**, *FJMS*, **60**, 1 (2011).
- 11 [I.Urdaneta](#), L. Sandoval and A. Palma, **On the Algebraic Approach to the Time Dependent Quadratic Hamiltonian**, *J. Phys. A* **43**, 385204 (2010).

- 10 I. Urdaneta, A. Keller, O. Atabek and V. Mujica, **Nonlinearity in photo-assisted resonant electronic transport**, *J. Chem. Phys.* **127**, 155410 (2007).
- 9 I. Urdaneta and J. L. Paz, **Método iterativo en sistemas moleculares interactuando con campos eléctricos dependientes del tiempo**. *CIENCIA* **14**, 465 (2006).
- 8 I. Urdaneta, A. Keller, O. Atabek and V. Mujica, **A simple model for laser-electrode interaction and its role in photo-assisted electron transport processes in molecular interfaces**, *J.Phys.B* **38**, 3779 (2005).
- 7 J. L. Paz, and I. Urdaneta, **Evaluation of state-to-state transitions and squeezing properties in molecules of the type H-X using the recently derived analytical IBT**, *J. Molec.Phys.* **225** 8 (2004).
- 6 I. Urdaneta, A. Keller, O. Atabek and V. Mujica, **Laser-Assisted conductance of molecular Wires: Two-Photon Contributions**, *Int. J. Quan. Chem.* **99**, 460 (2004).
- 5 I. Urdaneta and J.L.Paz, **Algebraic derivation of the iterative-perturbative method as a global squeezing and displacement transformation**, *Int. J. Quan. Chem.* **94** 153 (2003).
- 4 I. Urdaneta and J. L. Paz, **Transition probabilities of anharmonic systems coupled to time dependent electric fields**, *Phys. Lett. A* **296** 181 (2002).
- 3 I. Urdaneta, J. L. Paz and J. Recamier, **Transition probabilities of anharmonic systems coupled to time dependent electric fields**. *Proceeding 4th Iberoamerican Meeting on Optics and 7th Latin American Meeting on Optics, Lasers, and Their Applications.*, Proc. SPIE Vol. **4419**, doi:10.1117/12.437237
- 2 A. Marcano and I. Urdaneta, **Fluorescence quantum yield of rhodamine 101 in the presence of absorption saturation**, *Applied Physics B.* **72**, 207 (2001)
- 1 A. Marcano and I. Urdaneta, **Optical Stark splitting of the absorption spectrum of rhodamine 101**, *Proceeding SPIE* **3749**, 783 (1999).

INVITED SPEAKER

- 2025 *La lattice y la energetica danza del vacio cuántico*, XIX Coloquio de Neurohumanidades, Instituto Nacional de Psiquiatría Ramon De la Fuente **Ago. 2025**
- 2025 *La Danza del Vacío Cuántico*, XXI Coloquio internacional de Neurohumanidades 2025, Universidad Autónoma de Querétaro, Querétaro, México, **Ene. 23**
- 2024 *On Post-Modern Physics, Remembering Jacobo Grinberg at 30 – The Pari Center*, Dic 8, <https://paricenter.com/event/remembering-jacobo-grinberg-at-30/> <https://youtu.be/g1i1mGr0ThE>
- 2024 *El Quantum de la Consciencia*, Evento Shintergy: Perspectivas Cuánticas, Homenaje al Dr. Jacobo Grinberg, Mexico City, Dic. 8 <https://www.modeloshintergy.com/perspectivascuanticas> <https://youtu.be/wOt3T4WyQE>
- 2024 *La Lattice desde el Modelo Holo fractográfico*, XVIII Coloquio de Neurohumanidades en Honor al

- Dr. Jacobo Grinberg, Instituto Nacional de Psiquiatría Ramon De la Fuente **Mar. 2024**
- 2024 *El Quantum de la Consciencia*, Event 'El legado del Dr. Grinberg' by Grinberg Academy, **Mar. 2024**
- 2023 *¿Emerge la Masa de las Fluctuaciones del Vacío Cuántico?* Facultad de Ciencias Fisicomatemáticas, Benemérita Universidad Autónoma de Puebla, Puebla, MX, **Nov 21, 2023**
- 2023 *Towards an Unified Science*, XVIII Coloquio de Neurohumanidades "Conectoma y Complejidad", Instituto Nacional de Psiquiatría Ramon De la Fuente. Mexico City, **August 29. 2023**
- 2023 *Resonance in Biological Systems*, XVIII Coloquio de Neurohumanidades, Instituto Nacional de Psiquiatría Ramon De la Fuente. Online. **Mar. 2023**
- 2023 *Un Universo Conectado*, Universidad Cooperativa, Nueva Esparta, Venezuela. **Jan. 2023**
- 2022 *Understanding the Science of Quantum Entanglement*, Online Event: Entrelazando Hemisferios: de Jacobo Grinberg al Nobel de Física 2022, by Hypatia Research Institute Mexico, **Dic. 2022**
<https://www.youtube.com/watch?v=uh5Cv-3-6Ok>.
- 2022 *Holofractographic Universe, a journey through the scales of the cosmos*, annual meeting of the Computational and Condensed Matter Physics Group, Instituto de Física de la Universidad Autónoma de Puebla, (IFUAP), Av. San Claudio, PUE, México. **Sep. 2022**.
- 2022 *Holofractographic Universe, Is the universe a neural network?* XVIII Coloquio de Neurohumanidades, Instituto Nacional de Psiquiatría Ramon de la Fuente. Tlalpan, Ciudad de México. **Aug. 2022**.
- 2022 *The science of consciousness*, in the context of the scientific expedition organized by Resonance Science Foundation, Tulum, **Feb. 2022**
- 2021 *The order of space-time in the holographic theory*, 1er Congreso de Cosmosociología (online).
<https://www.youtube.com/watch?v=7w3mbe89Xjl&t=1s>. **Aug. 2021**.
- 2019 *Holographic Theory &/Vs Data Science*, annual meeting of the Computational and Condensed Matter Physics Group, Instituto de Física de la Universidad Autónoma de Puebla (IFUAP), Av. San Claudio, PUE, México. Sep. 2019
- 2019 *The Quantum of Consciousness*, in the context of the scientific expedition organized by Resonance Science Foundation. Rivera Maya, México, Nov. 2019.
- 2019 *Modelo holográfico y la ciencia de los datos*, Complex System group at Instituto de Fisicomatemáticas de la Benemérita Universidad Autónoma de Puebla, Pue., México, Sep. 2019
- 2019 *Color as Resonance in Light Matter interaction*, Resonance Science Foundation Retreat, 1440 Multiversity, Scotts Valley, CA 95066, USA, July 2019.
- 2018 *Ciencia y Consciencia ¿Una dialéctica del Saber?* Instituto de Fisicomatemáticas de la Benemérita Universidad Autónoma de Puebla, Pue., México. Mar. 2018,

- 2018 *Collective quantum effect* Conversatory at Congreso de Planeación Evolutiva EXPOSER 2018. World Trade Center, Ciudad de México, México., May 2018.
- 2018 *Science and consciousness*. Conversatory at Congreso de Planeación Evolutiva EXPOSER 2018. World Trade Center, Ciudad de Mexico, Mexico., May 2018.
- 2017 *Optoelectronic response of nano-junctions and interfaces*, Complex System group at Instituto de Fisicomatemáticas de la Benemérita Universidad Autónoma de Puebla, México. January 2017
- 2016 *The Invisible Substrate* , Complex System group at Instituto de Fisicomatemáticas de la Benemérita Universidad Autónoma de Puebla, Pue., México. Abril 2016
- 2016 *Women in science*, (discussion panel), Instituto de física Luis Rivera Terrazas de la Benemérita Universidad Autónoma de Puebla, Pue., México. April 2016.
- 2016 *Optoelectronic response of nano-junctions and interfaces*, Instituto de Química de la Universidad Autónoma de México (UNAM), DF, México. Oct. 2016
- 2015 *Optical response of molecule-metal oxide nano-particle hybrids* 249th ACS National Meeting & Exposition, Denver, Colorado (USA). Mar. 2015.
- 2015 *SERS en Dopamina-TiO₂: influencia del enlace químico*. Instituto de Física de la Universidad Autónoma de México, Jan. 2015, DF., México.
- 2014 *The role of the chemical bond in SERS*, Chemistry and Biochemistry department, Arizona State University (USA), Feb. 2014.
- 2013 *Dopamine on TiO₂ clusters and surfaces*, LCT, Université de Pierre et Marie Curie, Paris, France.
- 2013 *Modeling light-assisted nanojunctions & interfaces*. LCT, Université de Pierre et Marie Curie, Paris, France.
- 2010 *Modeling laser-assisted electron transport in nanojunctions*, International Materials Research Conference, Cancún. México.
- 2010 *Nanotecnología: Teoría y Aplicaciones*, Encubadora de negocios de la UTP, Puebla, México.
- 2009 *Transporte electrónico asistido por láser en nanocircuitos: teoría y aplicaciones*, Facultad de Ciencias de la electrónica, BUAP, Puebla, México.
- 2009 *Modelización del transporte electrónico asistido por láser en nano-uniones metálicas*. Instituto de Física Luí Rivera Terrazas, BUAP, Puebla, México.
- 2007 *Modelización teórica del transporte electrónico asistido por láser en nano-uniones*. Theoretical chemistry Lab, USB, Venezuela.
- 2006 *Photo-assisted electron transport in nano-junctions: an overview* Lab. Photophysique Moléculaire, Université de Paris Sud, Orsay, France.
- 2006 *Laser control of electronic transport properties in nanoscaled systems* , Colloque Bouyssy des Jeunes Chercheurs, UpSud, Orsay, France.

- 2003 École de Physique LES HOUCHES Nanosciences, *Two-photon contribution to the laser enhanced conductance in molecular wires*, Les Houches, France.
- 2001 *Algebraic Study of Molecular Systems interacting with Time-dependent Electric Fields*
V Venezuelan conference in Chemistry, LUZ, Maracaibo, Venezuela.

ONLINE COURSES, MASTERCLASSES, INTERVIEWS & PODCASTS

- 2025 *Unified Holographic Theory & Dr. Jacobo Grinberg's work*, Psicoactivo podcast by Pavel Ibarra
<https://www.youtube.com/watch?v=YK2Nx4cVyuY&t=11s>
La Teoría Holográfica y el trabajo de Grinberg, Psicoactivo podcast by Pavel Ibarra
<https://www.youtube.com/watch?v=Su5u8z3w-8o&t=467s>
- 2024 *¿Emerge la masa de las fluctuaciones del vacío cuántico?* Entrevista/podcast de Cesar Actis
<https://www.youtube.com/watch?v=AoRVDjld50k>
- 2023 *¿En qué consiste la teoría unificada?* Podcast The Art of Living #13, by Mirena Osorno
https://www.ivoox.com/en/13-en-consiste-teoria-unificada-con-audios-mp3_rf_120573751_1.html
- 2023 *The Quantum Theory*, interview by Mónica Jimenez, for Onda 105,1 FM, Union Radio. Vzla, Jan 30.
Press note <https://mundour.com/index.php/2023/01/31/teoria-cuantica-con-ines-urdaneta/>
- 2022 *Quantum Physics and the Holographic Model*, interview for MindSurf podcast. Oct. 2022.
<https://www.youtube.com/watch?v=uq3qLA3eW30>
- 2022 *Consciencia Unificada – la visión femenina en las ciencias*, Entrevista/Podcast de Cesar Actis
<https://www.youtube.com/watch?v=R5Tg5y8VIE0>
- 2021 *The holographic universe*, Escuela de Pedagogía 3000 E-Multiversity (Masterclass)
<https://www.youtube.com/watch?v=ARbxQJF7EC0>, Nov. 2021
- 2020 *Visión Cuántica*, Programa *Citas Conscientes*, Interview with Cecilia Taborelli.
<https://www.youtube.com/watch?v=CgXtP3b7EnU>
- 2019 *Women in STEM*, for Authority Magazine. <https://medium.com/authority-magazine/meet-the-women-in-stem-the-lack-of-feminine-perspective-in-science-has-probably-a-lot-to-do-ee8cbead391b>
- 2019 *La conscience dans tous ses états*, by Isabelle Fouchet, btlv (04/11/2019)
<https://www.btlv.fr/je-ne-sais-pas-la-conscience-dans-tous-ses-etats-replay.html>
- 2018 **LA IMPORTANCIA DEL PRIMER CONGRESO DE PLANEACIÓN EVOLUTIVA EN MÉXICO**
Interview to Marilú Figueroa and Ines Urdaneta, together with Dr José Luis Guerra (Physics).
Radio program Ciencia 3x7 de Radio Red 92.1 FM, April 11, 2018.
- 2010 *Las Mujeres en la Ciencia*, entrevista de la BUAP (Televisa)
- 2005 *Latinoamérica, mujeres y Ciencia*, Entrevista por Susana Sieiro para la revista Latitud 0, No. 6.

CHAPTERS IN BOOKS, COURSES & PROLOGUES

- 2022 Chapter 43 *Light-Matter Interaction*, book *Shintergy, la Puerta de atrás*, from Psic. José Luis Bueno.
- 2022 *Module 8 "The Universal Scaling Law"*, Unified Science Course for Resonance Science Academy
Expected launch for 2024. <https://www.resonancescience.org/academy>
- 2021 *Module 7, "New Advances in Unified Physics"*, of the Unified Science Course for Resonance Science Academy. <https://www.resonancescience.org/academy>
- 2021 Prologue of the book *Multi-U, la Universidad de mañana, ¡hoy!* from Noemi Paymal
- 2021 Prologue of the book *Del Universo al Corazon*, from Michael Zaresbki

POSTER PRESENTATIONS:

- 2016 ESPA 10th congress on Electronic Structure: *Photoactivity of Molecule-TiO₂ Clusters with Time-Dependent Density-Functional Theory* Castello, Spain July.
- 2016 COST CM1104 Reducible oxides Final meeting *Photoactivity of Molecule-TiO₂ Clusters with Time-Dependent Density-Functional Theory*. Osnabrück (Germany) April.
- 2015 International Workshop on Charge, Heat and Energy Transport in Molecular Junctions. *Fano interferences in nanostructures* Copenhagen (Denmark) 24-26 August. Oral session.
- 2014 8th Photo-dynamics Oaxaca *SERS in Dopamine-TiO₂: influence of the chemical bond* Mexico, October.
- 2014 COST CM1104 Reducible oxides 3rd General meeting *SERS effect of dopamine adsorbed on TiO₂ nanoparticles* Barcelone (Spain) November.
- 2014 TCCM *Understanding the SERS effect of dopamine adsorbed on titania nanoparticles* Nha Trang (Vietnam) August.
- 2014 COST Reducible metal oxides WG1-WG2 meeting *Understanding the SERS effect of dopamine adsorbed on TiO₂ nanoparticles*, Zaragoza (Spain) April
- 2013 Quitel 2013 "SERS in charge transfer composites: Dopamine-TiO₂". Granada, Spain.
- 2013 TDDFT Conference 2013 *SERS in charge transfer composites: Dopamine-TiO₂*. Nantes, France.
- 2012 AMOC 2012 *DFT studies in charge transfer complex Ti₂O₄- Dopamine* Marne la Vallée, Ile de France, France.
- 2011 QUITEL *On the algebraic approach to the time-dependent quadratic hamiltonian*, Rivera Maya, Qroo. México.
- 2011 XRMFQT *On the time-dependent solutions of the Schrodinger Equation: The Caldirola-Kanai Hamiltonian*, Pachuca, México.
- 2011 ISTCP-VII *Franck-Condon Factors for diatomic molecules for an arbitrary anharmonic potential*, Waseda University, Tokio, Japan.
- 2010 XV ERIEF2010 *Cálculos DFT en complejos de Dopamina-Ti₂O₄*, IFUAP, Puebla. Mexico.

- 2010 **PASI2010 NanoBio** *Modeling Laser-assisted electronic transport in nanojunctions*
Universidad de Puerto Rico en Humacao, Puerto Rico, USA.
- 2006 **Gordon Research Conference (GRC)** in electrochemistry *Laser-electrode interaction and its role in photo-assisted electron transport processes in molecular interfaces*, Santa Ynez Valley, California, USA.
- 2006 **International conference on nanoscience (ICON2006)** *Laser-electrode interaction and its role in photo-assisted electron transport processes in molecular interfaces*, Choroni, Edo. Aragua, Venezuela.
- 2001 **Iberoamerican Optics Meeting (RIO-Optilas 2001)**, *Transition Probabilities of Molecular systems in presence of time dependent Electric Fields* Buenos Aires, Argentina
- 1999 **Participation to ICO XVIII** (International Convention for Optics) "Optical Stark Splitting of the absorption spectrum of Rhodamine 101" San Francisco, California, United States.

ORGANIZED EVENTS

- 2022 *Entrelazando Hemisferios: de Jacobo Grinberg al Nobel de Física 2022.* (Entangling Hemispheres, from Jacobo Grinberg to the Nobel Prize in Physics 2022). Hypatia Institute Mexico (Dec. 2022).
Online <https://youtu.be/mPHhfpLyAig>

SCIENCE DISSEMINATION & RELATED

- 2018-2025 Science Dissemination Articles for ISF (former RSF) : 146 articles
<https://spacefed.com/author/inesurdaneta/>
- 2019-2023 Supervision/correction of the Unified Science course Spanish translations & Spanish articles.
- 2023-2025 Translation to Spanish of all ISF Science Blog Articles
- 2018-2023 RSF Q&A sessions once per month for the Unified Science Course in three languages.
English : <https://www.youtube.com/channel/UC90xjyBvRnlG6gqZwNyxWiQ>
French : https://www.youtube.com/watch?v=_GqdkhdseUQ
<https://www.youtube.com/watch?v=Jxs41KzSXXo&t=96s>
Spanish : <https://www.youtube.com/channel/UCMr4zFWrjzUvkO-JcHZBO2Q>
- 2023-2025 ISF Q&A sessions once per month for the Unified Science Course in two languages (F & E)
- 2024-2025 Hosting of the French Q&A sessions once per month for the Unified Science Course

EDUCATION:

- 2003-2007 **PhD in Physics (Nanotechnology)**, Laboratoire de Photophysique Moléculaire (LPPM), currently Institut des sciences Moléculaires d'Orsay, ISMO, Université de Paris Sud.
- 1999-2002 **Maestría en Química Teórica**
Universidad Simón Bolívar (USB), Caracas, Venezuela.

- 1994-1999 **Licenciatura en Química**
Universidad Simón Bolívar (USB), Caracas, Venezuela
- 1991-1994 **Ingeniería de Producción (changed to chemistry one year before graduating)**
Universidad Simón Bolívar (USB), Caracas, Venezuela

DOCTORAL THESIS - mention très honorable

"Laser-assisted electron transport in nano-junctions: Theoretical modelling." Supervisors: Osman Atabek , Arne Keller (ISMO) and Vladimiro Mujica (Universidad Central de Venezuela).

SCHOLARSHIPS AND PROMOTIONS:

- 2013-2016 **Level I of SNI** "Sistema Nacional de Investigadores", CONACYT, México.
- 2010-2013 **Level Candidato of SNI** "Sistema Nacional de Investigadores", CONACYT, México.
- 2004-2006 **ALBAN Grant**, "Programme de bourses de formation de haut niveau de l'union Européenne pour l'Amérique latine", No. E04D045094VE.
European Universities Network, Asoc. Grupo Santander.
- 2002-2006 **Level I of PPI:** Programa de Promoción al Investigador, Ministerio de Ciencia y Tecnología, Venezuela.
- 2002-2004 **Bourse d' ECOS-Nord**, bilateral project between France and Venezuela, No. V00 P01, consisting on internships of three months per year, for four years at Laboratoire de Photophysique Moléculaire, Université de Paris-Sud, Orsay CEDEX, France.
- 1999-2002 **Scholarship from FONACIT** to finance master's degree, Ministerio de Ciencia y Tecnología, Venezuela.