

## I. PERSONAL AND CONTACT INFORMATION

**First Name:** Mauricio, **Surname:** Comas García

**Place and date of birth:** Mexico City, Mexico, August 14<sup>th</sup>, 1983

**Nationality:** Mexican and Spanish

**E-mail:** [mauricio.comas@uaslp.mx](mailto:mauricio.comas@uaslp.mx) [mauricio.comas@gmail.com](mailto:mauricio.comas@gmail.com)

**Web sites:** <https://mauriciocomas.wixsite.com/viralassembly>

**Languages:** Spanish (Native), English (100% Speaking, 100% Listening, 100% Reading, and 100% Writing), Catalan (80% Speaking, 100% Listening, 100% Reading, and 20% Writing)

## II. CURRENT POSITION

**Tenured Professor Level VI** (out of 6) at the Autonomous University of San Luis Potosí (Universidad Autónoma de San Luis Potosí, UASLP), San Luis Potosí, SLP, México (January 2018 - Present)

- **Professor of Biology** at the Department of Sciences (Facultad de Ciencias).
- **Principal Investigator** at the Center for Health Sciences and Biomedicine (Centro de Investigación en Ciencias de la Salud y Biomedicina, CICSaB).
- **Head** of the virus assembly and physical virology laboratory (CICSaB).
- **Professor** in the Basic Biomedical Sciences Graduate Program (Medical School)
- **Professor and Chair of the Graduate Program** of the Life Sciences Graduate Program (Department of Sciences).
- **Member of the Mexican National System for Researchers (SNII):** Level 2 (2<sup>nd</sup> highest level).

## III. EDUCATION

**B.Sc. in Chemistry** 2002-2007 - **Autonomous University of San Luis Potosí (UASLP)**, San Luis Potosí, SLP, México Department of Chemistry

**Ph.D. in Chemistry** 2007-2013 with emphasis in **Physical Chemistry** - **University of California, Los Angeles (UCLA)**, Los Angeles, CA, USA Department of Chemistry and Biochemistry

**Thesis:** *In vitro* studies of a single-stranded RNA virus self-assembly.

**Advisors:** Dist. Prof. Dr. William M. Gelbart and Emeritus Prof. Dr. Charles M. Knobler.

**Postdoctoral fellowship** 2013-2018 **National Cancer Institute (NCI)**, Frederick, Maryland, USA. HIV Dynamics and Replication Program Retroviral assembly section

**Advisor:** Dr. Alan Rein.

## IV. PUBLICATIONS

### A. RESEARCH ARTICLES

*Citations: 1,236 h-index: 15, i10-index: 20*

<https://scholar.google.com/citations?user=VrV7ZF4AAAAJ&hl=en>

1. Rodríguez-Salazar, C.L., **Comas-García, M.**, Muñoz Tenería, F.A., Zenteno-Savín, T., Labrada-Martagón, V. (2025) Genotoxic damage in green turtles (*Chelonia mydas*) exhibits regional and annual fluctuations. **Marine Environmental Research**. Volume 204, 106877,
2. Hernández-Aviña, A.d., Mendoza-Gómez, L.F., Hernández-Mancillas, X.D, Salazar-Gonzalez, J.A., Zapata-Cuellar, L., Camacho-Ruiz, R.M., **Comas-García, M.**, Sarmiento-Silva, R.E., Rodríguez, J.A., Arellano-Plaza, M., Flores-Valdez, M.A., & Gutiérrez-Ortega, A. (2024). Design of a Golden Gate Cloning Plasmid for the Generation of a Chimeric Virus-Like Particle-Based Subunit Vaccine Against Porcine Circovirus Type 2. **Mol Biotechnol**. doi: 10.1007/s12033-024-01334-z

3. **Comas-Garcia, M.\*** (2024), How structural biology has changed our understanding of icosahedral viruses. **Journal of Virology**. e01111-23
4. Moreno Valtierra, M., Urue Corral, A., Jimenez Avalos, J. A., Barbosa Avalos, Dávila-Rodríguez, E. S. J., Morales Hernandez, N., **Comas-García, M.**, Toriz González, G., Ocegüera Villanueva, A., Cruz-Ramos, J.A., Hernández Gutiérrez, R\*., Martínez-Velázquez, M.\*, García Carvajal, Z.Y. \* (2024) Patterned PVA Hydrogels with 3D Petri Dish® micro-molds Topography for HeLa Spheroid Formation: in vitro assessment. **Gels**. 10(8), 518
5. Sánchez-Medina, J.G., Cuellar Camacho, J.L., Mira, A., Martinez Martinez, R.E., **Comas-Garcia, M.**, Garrocho Rangel, A., Pozos Guillen, A.J., Aranda Romo, S. (2024) *Streptococcus dentisani* inhibits the growth of *Candida albicans* and *Candida glabrata*. In vitro assays. **International Microbiology**. DOI:/10.1007/s10123-024-00525-7
6. Miranda-Lopez, A., González-Ortega, O., Govea-Alonso, D., Betancourt-Mendiola, L., **Comas-Garcia, M.\***, & Rosales-Mendoza, S.\* (2024) Rational design and production of a chimeric antigen targeting Zika virus that induces neutralizing antibodies in mice. **Vaccine**. 42(7)
7. Velazquez-Cervantes, M.A., López-Ortega, O., Cruz-Holguín, V.J., Herrera Moro-Huitrón, L., Flores-Pliego, A., Lara-Hernández, I., **Comas-Garcia, M.**, Villavicencio-Carrisoza, Helguera-Repetto, A.C., Arévalo-Romero, H., Vázquez-Martínez, E.R., León-Juarez, M.\* (2024) Metformin inhibits Zika virus infectin in Trophoblast Cell line. **Current Microbiology**. 81(5), 133
8. Wong-Arce, A., Gonzalez-Ortega \*, O., Romero-Maldonado, A., Miranda-López, A., García-Soto, M., Farfán-Castro, S., Betancourt-Mendiola, L., Teeravechyan, S., Srisutthisamphan, K., **Comas-García, M.**, Ivón Solís-Andrade, K. & Rosales-Mendoza\* S. (2024) Production and immunogenicity assessment of LTp50: an *Escherichia coli*-made chimeric antigen targeting S1- and S2-epitopes from the SARS-CoV-2/BA.5 spike protein. **Pharmaceuticals**. 17(03):302
9. Alvarez, M., Franco Vega, A., Ganem Rondero, A., Soria Guerra, R., Juarez Flores, B.I., **Comas-Garcia, M.**, Oros Valle, C., Schneider, B., Ratering, S., Schnell, S., Martinez-Gutierrez, F., (2023) Modulation of the altered intestinal microbiota by use of antibiotics with a novel symbiotic on Wistar rats. **Probiotics and Antimicrobial Proteins**. 10.1007/s12602-023-10204-0
10. Lara-Hernandez, I., Escalante-Muñoz, J.C., Bernal-Silva, S., Noyola, D.E., Wong-Chew, R.M., Comas-Garcia, A\*., **Comas-Garcia, M.\*** (2023) Ultrastructural and functional characterization of mitochondrial dynamics induced by human respiratory syncytial virus infection in HEP-2 cell. **Viruses**. 15(7), 1518
11. Rubio-Hernández, E.I., **Comas-Garcia, M.\***, Coronado-Ipiña, M.A., Colunga-Saucedo, M., Gonzalez-Sanchez, H.M.\*, Castillo-Martin del Campo, C.G.\* (2023) Astrocytes derived from Neural Progenitor Cells are susceptible to Zika Virus Infection. **PlosOne**. 18(3): e0283429.
12. Colunga-Saucedo, M., Rubio-Hernandez, E.I., Coronado-Ipiña, M.A., Rosales-Mendoza, S., Castillo C.G., **Comas-Garcia, M.\*** (2023) Construction of a Chikungunya virus, replicon, and helper plasmids for transfection of mammalian cells. **Viruses**. 15(1).132
13. Guevara-Meléndez, A.M., **Comas-Garcia, M.**, Labrada-Martagón, V., (2023) Description and quantification of nuclear abnormalities in erythrocytes of the sentinel green turtle (*Chelonia mydas*) with fluorescence microscopy. Mutation Research - **Genetic Toxicology and Environmental Mutagenesis**. 887, 503596

14. Ojeda-Galván, H. J., Hernández-Arteaga, A.C., Toro-Vazquez, J.F., Cruz-González, N., Ortiz-Chávez, S., **Comas-García, M.**, Rodríguez, A. G., Navarro-Contreras, H. R., Rodríguez-Aranda, M.C., (2023) Application of Raman spectroscopy for the determination of proteins denaturation and amino acids decomposition temperature. **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy**. Volume 285,121941
15. Solis-Andrade, K.I., González-Ortega, O., Govea-Alonso, D.O., **Comas-Garcia, M\*.**, & Rosales-Mendoza, S\*. (2022) Production and purification of LTB-RBD: a potential antigen for mucosal vaccine development against SARS-CoV-2. **Vaccines** 10(10), 1759
16. Delprá-Cachulo, J.M., Labrada-Martagón, V., **Comas-Garcia, M.**, Báez-Ruiz, G.A. & González-Hernández, M. (2022) Endoparasitic infections in captive wild mammals under human care in San Luis Potosí, Mexico. **Agro Productividad**. Vol. IX
17. Leon-Juarez, M., García-Cordero, J., **García-Comas, M.**, Cedillo-Barrón, L. González-Santamaría, J. Shrivastava G., (2022) Cellular, molecular and immunological aspects in arbovirus infection. **Frontiers in Cellular and Infection Microbiology**. 14
18. **Comas-Garcia, M\*.** (2022) The role of packaging signals in virus assembly and interplay between the nucleation and elongation rates. **Biopys Journal**. 121 (15); 2485-2486
19. Almendárez-Rodríguez, C., Solis-Andrade, K.I., Govea-Alonso, D.O., **Comas-Garcia, M.\*** and Rosales-Mendoza, S.\* (2022) Production and characterization of chimeric SARS-CoV-2 antigens based in the capsid protein of Cowpea chlorotic mottle virus. **International Journal of Biological Macromolecules**. 2013; 1007-1017
20. Farfán-Castro, S., García-Soto, M., **Comas-Garcia, M.**, Arévalo-Villalobos, J., Palestino, G., González-Ortega, O., Rosales-Mendoza, S. (2021) Synthesis and immunogenicity assessment of a gold nanoparticle conjugate for the delivery of a peptide from SARS-CoV-2. **Nanomedicine, Nanotechnology, Biology and Medicine**. 34, 102372
21. **Comas-Garcia, M.**, Colunga-Saucedo, M. & Rosales-Mendoza, S. (2020) The role of virus-like-particles in medical biotechnology. *Molecular Pharmaceutics Accepted* **Molecular Pharmaceutics**
22. Rosales-Mendoza, S., **Comas-Garcia, M.**, Korban, S.S. (2020) Challenges and Opportunities for the Biotechnology Research Community during the Coronavirus Pandemic. **Trends in Biotechnology**. 1937
23. **Comas-Garcia, M\*.** (2019) Packaging of Genomic RNA in Positive-Sense Single-Stranded RNA viruses: A Complex Story. **Viruses** 11(3), 253
24. **Comas-Garcia, M.**, Kroupa, T., Datta, S.A.K., Harvin, D.P., Hu, W.S. & Rein, A. (2018) Efficient support of virus-like-particle assembly by the HIV-1 packaging signal. **eLife** 2018;7:e38438.
25. **Comas-Garcia, M.**, Datta, S.A.K., Baker, L., Varma, R., Gudla, P.R. & Rein, A. (2017) Dissection of specific binding of HIV-1 Gag to the “packaging signal” in viral RNA. **eLife** 2017;6:e27055.
26. **Comas-Garcia, M.**, Davis, S.R. Rein, A. (2016) On the selective packaging of genomic RNA of HIV-1. **Viruses** 8(9) 246.
27. Torres-Salgado, J.F., **Comas-Garcia, M.**, Villagrana-Escareno, M.V., Duran-Meza, A., Ruiz-Garcia, J. & Cadena-Nava, R.D. (2016) Physicochemical study of viral nanoparticles at the Air/Water interface. **The Journal of Physical Chemistry B** 120(26):5864-5873.
28. Bruinsma, R.F., **Comas-Garcia, M.**, Garmann, R.F. & Grosberg, A.Y. (2016) Quasi-equilibrium self-assembly of small RNA viruses. **Physical Review E** 93(3):032405.

29. Garmann, F.R., **Comas-Garcia, M.**, Gopal, A., Knobler, C.M. & Gelbart, W.M. (2016) Physical principles in the self-assembly of a simple spherical virus. **Accounts of Chemical Research** 49(1): 48-55.
30. Garmann, F.R., **Comas-Garcia, M.**, Koay, M.S.T., Cornelissen, J.J.L.M., Knobler, C.M. & Gelbart, W.M. (2014) Role of Electrostatics in the Assembly Pathway of a single-stranded RNA virus. **Journal of Virology** 88(18):10472-10479.
31. **Comas-Garcia, M.**, Garmann, F.R., Singaram, S.W., Ben-Shaul, A., Knobler, C.M. & Gelbart, W.M. (2014) Characterization of viral capsid protein self-assembly around short single-stranded RNA. **The Journal of Physical Chemistry B** 118(27): 7510-7519.
32. Garmann, F.R., **Comas-Garcia, M.**, Gopal, A., Knobler, C.M. & Gelbart, W.M. (2014) The assembly pathway of an icosahedral single-stranded RNA virus depends on the strength of inter-subunit attractions. **Journal of Molecular Biology** 462(5):1050-1060.
33. **Comas-Garcia, M.**, Cadena-Nava, R.D., Rao, A.L.N., Knobler, C.M. & Gelbart, W.M. (2012) *In vitro* quantification of the relative packaging efficiency of a single-stranded RNA molecules by viral capsid protein. **Journal of Virology** Volume 86, Number 22, 12271-12282
34. Cadena-Nava, R.D., **Comas-Garcia, M.**, Garmann, R.F., Rao, A.L.N., Knobler, C.M., & Gelbart, W.M. (2012) Self-assembly of viral capsid protein and RNA molecules of different sizes: requirement for a specific high protein/RNA mass ratio. **Journal of Virology** Volume 86, Number 6, 3318-3326

## B. BOOK CHAPTERS

1. Cadena-Lopez, D., Villalba-Nieto, M., Campos-Melendez, F., Rosales-Mendoza, S., **Comas-Garcia, M.\***. (2023) Assembly of Coronavirus and CoV-like-particles. **Physical Virology** 1st Ed. Nature Springer *In press*. (Expected publication date October 2023)
2. García Silva, I., Colunga-Saucedo, M., Almendarez-Rodríguez, C., Miranda-López, C., Rosales-Mendoza, S., & **Comas-Garcia, M.\*** (2021) VLP-based vaccines against SARS-CoV-2. **Biomedical Innovations to Combat COVID-19** 1st Ed. Elsevier.
3. **Comas-Garcia, M.\***, Rubio-Hernández, E.I., Lara-Hernández, I., Colunga-Saucedo, M., Castillo, C.G., Comas-Garcia, A., Monsivais-Urenda, A., Zandi, R. (2021) Basic virology aspects of SARS-CoV-2. **Biomedical Innovations to Combat COVID-19** 1st Ed. Elsevier.
4. Lara-Hernández, I., Cornado-Ipiña, M.A., Rocha-Rosas, K., **Comas-Garcia, M.\***. Fundamental aspects of the structural biology of Coronaviruses. (2021) **Biomedical Innovations to Combat COVID-19** 1st Ed. Elsevier.

## C. EDITED BOOKS

1. **Book – Nature Springer** – “Physical virology” – Editors **Dr. Mauricio Comas-Garcia** & Dr. Sergio Rosales Mendoza Accepted. In press
2. **Book - Elsevier** - "Biomedical Innovations to Combat COVID-19" - Publication date October 2021. Editors: Dr. Sergio Rosales-Mendoza, **Dr. Mauricio Comas-Garcia**, Dr. Omar González-Ortega.

## D. PATENTS

1. **Patent submitted to the IMPI (MEXICO) in “Sistema para la generación de candidatos vacunales basados en proteínas quiméricas contra virus de RNA de una sola cadena”** (System to generate vaccine candidates based on chimeric proteins against single-stranded

RNA viruses) – Co-inventors Dr. Sergio Rosales-Mendoza, Dr. Mauricio Comas-Garcia, Dr. Omar González Ortega, Dr. Alejandra Wong-Arce, UASLP, and CONAHCyT.

### E. JOURNAL EDITED SPECIAL ISSUES

1. **Journal Special Issue - Frontiers Journal** - Special Issue "Virus-like particles in Biomedical Applications: Recent Advances and Future Prospects" - Topic Editors: Dr. Manidipa Banerjee, Dr. Mauricio Comas-Garcia, and Dr. Milan Surjit.
2. **Journal Special Issue - Frontiers Journal** - Special Issue "Applied Virology and Biotechnology" - Topic Editors: Dr. Anan Jongjawnattana and Dr. Mauricio Comas-Garcia.
3. **Journal Special Issue - Frontiers Journal** - Special Issue "Cellular, Molecular and Immunological Aspects in Arboviruses Infection" - Topic Editors: Dr. Moisés León-Juárez, Dr. Julio García-Cordero, Dr. Mauricio Comas-Garcia, Dr. Leticia Cedillo-Barrón, Dr. Jose González-Santamarina, and Dr. Gaurav Shrivastava.
4. **Journal Special Issue - Vaccines** - Special Issue "Recombinant Vaccines Produced in Emerging Expression Systems for Human and Animal Health" Special editors: Dr. William C. Wilson, Dr. Mauricio Comas-Garcia, Dr. Sergio Rosales-Mendoza. Deadline for manuscript submission: 31 January 2022

### F. SCIENCE COMMUNICATION ARTICLES IN SPANISH

1. Rosales Mendoza, S. Comas Garcia M., (2020) Científicos potosinos desarrollan vacunas de bajo costo contra el COVID-19. **COPOCYT TECNODISRUPTIVA** 1:7-.8
2. Mendoza Pérez, J.M., Comas Garcia, M. y Aranda Romo, S. (2018) Bacteriófagos: un tratamiento alternativo contra las caries. Universitarios Potosinos. Número 235. 18-21
3. Comas-Garcia, M. (2015) El lado positivo de los virus ¿Cómo ves? UNAM. Número 197, 30-33

## V. GRADUATED STUDENTS

### A. Graduate thesis: 3 Ph.D. students and 7 M.Sc. students

1. Miguel Angel Coronado-Ipiña – **M.Sc. Life Sciences** – December 2024 – “Molecular Determinants of Chikungunya virus assembly”. – Director
2. Brianda Agundis-Tinajero – **M.Sc. Life Sciences** – August 2024 – “Analysis system based on deep-learning for electronic micrographs of cells infected with ZIKA and SARS-CoV-2”. – Co-director
3. Denisse Cadena-Lopez – **M.Sc. Life Sciences** – August 2024 – “Generation of SARS-CoV-2 virus-like-particles to implement bioassays of viral entry” – Co-director
4. Ignacio Lara Hernandez – **Ph.D. Biomedicine** – August 2023 – “Ultrastructural and functional characterization of mitochondrial dynamics induced by human respiratory syncytial virus infection in HEp-2 cell”. – Co-director
5. Alan Araujo-Mireles, **M.Sc. in Biomedicine** - June 2023 – Thesis “Generation and characterization of a Zika virus clone that contains a fluorescent reporter gene”. – Co-director
6. Mayra Colunga-Saucedo, **Ph.D. in Biomedicine** – May 2023 – Thesis “Packaging of Chikungunya virus”
7. Edson Ivan-Rubio Hernández, **Ph.D. Biomedicine** – March 2023– Thesis “Effects of Zika virus infection on neural cells”. – Co-director



8. Claudia Almendarez-Rodriguez, **M.Sc. in Bioprocesses** – December 2022 – Thesis “Production and characterization of chimeric SARS-CoV-2 antigens based in the capsid protein of Cowpea chlorotic mottle virus”. – Co-director
9. Arleth Miranda-López, **M.Sc. in Pharmacological sciences** – December 2021 – Thesis “Production, inactivation, and purification of Zika virus for its evaluation as a mucosal vaccine”. - Co-director
10. Antonio Zúñiga-Izaguirre – **M.Sc. in Biomedicine** - October 2021 – Thesis “*In vitro* assembly of Chikungunya virus and Zika virus”.

## B. Undergraduate thesis

---

1. Maria Villalba-Nieto, **B.Sc. in Biology** - “Generation of a production system for ZIKV VLPs”. October 2023
2. Fernanda Campos-Melendez, **B.Sc. in Biology** - Thesis “Generation and characterization of non-infectious chimeric virus-like-particles”. June 2023
3. Ricardo Ernesto Martínez-Rodriguez, **B.Sc. in Biology** - Thesis “Ultra-structural characterization of the entry process of SARS-CoV-2”. October 2022
4. Miguel Angel Coronado-Ipiña, **B.Sc. in Biology** – Thesis “Ultrastructural characterization of the zika virus infection of human astrocytes derived from a human stem cell”. May 2022-
5. Karen Airam Ortega-Palestino, **B.Sc. in Biophysics** –Thesis “Production, purification and characterization of non-infectious SARS-CoV-2 Virus-Like Particles”. February 2022
6. Pablo Antonio González. **B.Sc. in Biology** Thesis “Generation of an in vitro assembly system of chikungunya virus capsid protein”. October 2020

## VI. ACADEMIC DISTINCTIONS

### A. AWARDS

---

1. **Member of the National Researchers System (SNI)** of the Mexican National Council of Science and Technology (CONACyT). **Level II**, January 2024 - Present
2. NCI-HIV Think Tank Travel Award for **Meritorious Talk**, April 18th 2017.
3. NCI-HIV Think Tank Travel Award for **Meritorious Talk**, April 20th 2016.
4. **Member of the National Researchers System (SNI)** of the Mexican National Council of Science and Technology (CONACyT). **Level I**, January 2016 – December 2023
5. **UCLA- Dissertation Award for the best thesis on Physical chemistry**, June 15<sup>th</sup> 2013.
6. UCLA-Department of Chemistry and Biochemistry, George Gregory **Award for excellence in research in Physical Chemistry**, November 19<sup>th</sup> 2012.
7. UCLA-Department of Chemistry and Biochemistry, **Teaching Assistant Award** 2009.
8. **2<sup>nd</sup> Place** in the 4<sup>th</sup> Contest of Project Development of the Chemistry Major, Department of Chemistry, UASLP. November 24<sup>th</sup> 2006.
9. **Highest GPA of the 2002-2006 Class**, Chemistry Major, UASLP.
10. Mexican Institute of Chemical Engineering Award as the **Academic Excellence Award** (Best student) for 2002 Generation in the Chemistry Major. November 2006.
11. UASLP-Chemistry Department **Academic Excellence Award** (Best student); November 2005.
12. UASLP-Chemistry Department **Academic Excellence Award** (Best student); November 2004.
13. UASLP-Chemistry Department **Academic Excellence Award** (Best student); November 2003.

## B. FELLOWSHIPS

---

- 2012-2013 **UCLA Dissertation Year Fellowship** UCLA
- 2007-2012 **CONACyT Doctoral Fellowship.**
- 2007-2008 **First Year Fellowship.** UCLA Chemistry and Biochemistry Department.

## C. GRANTS AS PI, CO-PI, AND COLLABORATOR INVESTIGATOR (CI)

---

1. 2023-2024 COPOCYT 2024-03-M07 (PI Mauricio Comas-Garcia)
2. 2023 - 2025 CONAHCYT-CBF2024-2024-1125 (PI Mauricio Comas-Garcia))
3. 2022 – 2023 CONAHCYT-311325 (PI Christian A. García Sepulveda/CI Mauricio Comas-Garcia)
4. 2021 – 2023 CONAHCYT-321364 (PI – Sergio Rosales Mendoza /Collaborator Investigators Mauricio Comas-Garcia)
5. 2020– 2023 CONAHCYT FORDECYT-PRONACES/1564453 (Co-Pi with Margarita Rodriguez y Domínguez Kessler, and Juan Francisco Jimenez Bremont)
6. 2020 – 2023 CONAHCYT-311879 (PI – Sergio Rosales Mendoza /Collaborator Investigator Mauricio Comas-Garcia MCG)
7. 2020 - 2021 Alianza UCMX COVSUP02 (Co-PI Roya Zandi)
8. 2019 – 2020 COPOCYT FS04-19 (PI))
9. 2019 – 2021 FORDECYT-PRONACES/2823144 (Co-Pi with Guillermo Ruiz-Palacios)
10. 2018 – 2019 UASLP-PTC-622 (PI Mauricio Comas-Garcia)
11. 2018 – 2019 UASLP-FAI-2018-14 (PI Mauricio Comas-Garcia)

## VII. PROFESSIONAL EXPERIENCE

### A. RESEARCH

---

- June del 2013 to January del 2018 – **Postdoctoral Fellowship** -  
 National Cancer Institute (NCI), Frederick, Maryland, USA.  
 HIV Dynamics and Replication Program  
 Retroviral assembly section)  
**Advisor:** Dr. Alan Rein.
- Summer del 2006 **Guest undergraduate researcher** - UCLA  
 Department of Chemistry and Biochemistry  
**Advisors:** Dr. William M. Gelbart and Dr. Charles M. Knobler.
- 2005-2007 **Undergraduate Researcher** – UASLP  
 Physics Institute  
**Advisor:** Dr. Jaime Ruiz Garcia.
- Summer 2004 **Undergraduate Researcher** – Universidad de Guanajuato  
 Physics Institute  
**Advisor:** Dr. Miguel Vargas Luna

### B. EDITORIAL WORK AND REVIEWER POSITIONS

---

- 2017 to date Ad hoc reviewer of the journals Viruses, Pathogens, Molecules, Biophysical Journal, Archives of Virology, PLOS computational, Molecules, Microorganisms, and Journal of the Royal Society of Interface.
- 2020 to date Member of the Reviewer Board **Vaccines**
- 2022 to date Member of the Reviewer Board **Frontiers in Virology: Antivirals and Vaccines, Translational Virology, and Emerging and Reemerging Viruses**

2022 to date	Member Editorial Board: <b>PLOS One</b>
2022 to date	Member of the Editorial Board of Reviewers: <b>eLife</b>
2023 to date	Member of the Topical Advisory Panel: <b>Viruses</b>
2023 to date	Member of the reviewer Board <b>Frontiers in Molecular Biosciences-Cellular Biochemistry</b>

### C. MEMBERSHIPS

---

2016 to date	American Society for Microbiology
2016 to 2023	CONAHCyT National Researchers System (SNI) Level I
2018 to date	American Society of Virology
2018 to date	Mexican Society of Virology
2022 to date	Mexican Society of Microscopy
2024 to 2029	CONAHCyT National Researchers System (SNI) Level II

## VIII. TEACHING EXPERIENCE

### A. AS FULL PROFESSOR AT UASLP (2018 – PRESENT)

---

*18 weeks per semester, 10 hours a week*

1. January – June 2018
  - **Biology of Prokaryotes**
  - **Virology**
2. August– December 2018
  - **Biology of Protists**
  - **Organic and Inorganic Chemistry**
3. January – June 2019
  - **Biology of Prokaryotes**
  - **Virology**
4. August– December 2019
  - **Biology of Protists**
  - **Organic and Inorganic Chemistry**
5. January – May 2020
  - **Biology of Prokaryotes**
  - **Physical chemistry for Biological Sciences**
6. August– December 2020
  - **Biology of Protists**
  - **Virology**
7. January– June 2021
  - **Biology of Prokaryotes**
  - **Physical chemistry for Biological Sciences**
8. August– December 2021
  - **Biology of Protists**
  - **Virology**
  - **Research methodology (Life Science Graduate Program)**
9. January– June 2022
  - **Biology of Prokaryotes**
  - **Physical Chemistry for Biological Sciences**
  - **Molecular Virology (Life Science Graduate Program)**



- **Molecular techniques (Life Science Graduate Program)**
- 10. August– December 2022
  - **Biology of Protists**
  - **Virology**
  - **Molecular Virology (Life Science Graduate Program)**
- 11. January– June 2023
  - **Biology of Procaryotes**
  - **Physical Chemistry for Biological Sciences**
  - **Molecular techniques (Life Science Graduate Program)**
- 12. August– December 2023
  - **Biology of Protists**
  - **Virology**
  - **Molecular Virology (Life Science Graduate Program)**
- 13. January– June 2024
  - **Biology of Procaryotes**
  - **Physical Chemistry for Biological Sciences**
- 14. August– December 2024
  - **Biology of Protists**
  - **Virology**
  - **Molecular Virology (Life Science Graduate Program)**

## **B. AS TEACHING ASSISTANT AT UCLA (2007-2012)**

---

*52 hours per quarter*

1. Spring Quarter del 2012
  - **Biochemical Methods (Chem 154)**
2. Fall Quarter 2011
  - **Chemical thermodynamics (Chem 110A)**
3. Spring Quarter 2011
  - **Physical Biochemistry (Chem 156)**
4. Fall Quarter 2010
  - **Physical Biochemistry (Chem 156)**
5. Summer Session C 2010
  - **Organic Chemistry (Chem 14D)**
6. Summer Session A 2010
  - **Physical Biochemistry (Chem 156)**
7. Spring Quarter 2010
  - **Physical Biochemistry (Chem 156)**
8. Winter Quarter 2010
  - **Thermodynamics, Electrochemistry, Kinetics and Organic Chemistry (Chem 14B)**
9. Fall Quarter 2009
  - **Chemical thermodynamics (Chem 110A)**
10. Winter Quarter 2009
  - **Thermodynamics, Electrochemistry, Kinetics and Organic Chemistry (Chem 14B)**
11. Fall Quarter 2008

- **Atomic and Molecular Structure, Chemical Equilibrium, Acids and Bases** (Chem 14A)
- 12. Spring Quarter 2008
  - **Chemical thermodynamics** (Chem 110A)
- 13. Winter Quarter 2008
  - **Thermodynamics, Electrochemistry, Kinetics and Organic Chemistry** (Chem 14B)
- 14. Fall Quarter 2007
  - **Chemical Structure** (Chem 20A)

## IX. SYMPOSIUMS, MEETINGS AND SEMINARS

### A. ORAL PRESENTATIONS AT INTERNATIONAL MEETINGS

---

1. **Structure and topology of RNA in living systems.** Invited speaker “HIV-1 genomic RNA packaging”. COST-ECT Tentro, Italy January 30 to February 2<sup>nd</sup> 2023.
2. **7<sup>th</sup> Gordon Conference on Physical Virology.** Invited speaker “SARS-CoV-2 Assembly and Disassembly”. Lucca (Barga) Italy January 22-27 2023
3. **6<sup>th</sup> Gordon Conference on Physical Virology.** Discussion leader “Assembly and Disassembly”. Ventura, CA, USA del January 19-25 2019.
4. **Workshop on Physical Virology.** The Abdus Salam International Centre for Theoretical Physics. Title: “*Selective HIV-1 Gag-RNA interactions require a series of specific interactions distributed across the 5'-UTR*”. Trieste, Italy July 17-21 2017.
5. **The Cold Spring Harbor Laboratory Meeting in Retroviruses.** Title: “*Selective HIV-1 Gag-RNA interactions require a series of specific interactions distributed across the 5'-UTR*”. Cold Spring Harbor, Nueva York, USA May 22-27 2017.
6. **20<sup>th</sup> annual HIV Dynamics and replication program Think Tank.** NCI-Frederick. Title: “*Dissecting the elements of the HIV-1 5'-UTR required for high-affinity binding to Gag and packaging specificity*” Frederick, Maryland, USA April 19<sup>th</sup> 2017.
7. **The Cold Spring Harbor Laboratory Meeting in Retroviruses.** Title: “*In vitro selective binding between the HIV-1 packaging signal and Gag is driven by a delicate balance between specific and non-specific interactions*”. Cold Spring Harbor, Nueva York, USA May 23-28 2016.
8. **19<sup>th</sup> annual HIV Dynamics and replication program Think Tank.** NCI-Frederick. Title: “*Binding of HIV-1 Gag to  $\Psi^+$  and  $\Psi^-$  RNAs: Specific vs non-specific interactions*”. Frederick, Maryland, USA April 20<sup>th</sup> 2016.
9. **The Cold Spring Harbor Laboratory Meeting in Retroviruses.** Title: “*Understanding HIV-1 packaging signal by single-molecule spectroscopy*”. Cold Spring Harbor, Nueva York, USA del 18 al May 23<sup>rd</sup> 2015.
10. **22<sup>nd</sup> Biennial Conference on Phage/Viral Assembly.** Title: “*Measuring the in-vitro packaging efficiency of single-stranded RNA Viruses*”. Port Aransas, Texas, USA October 9-14 2011.

### B. POSTERS PRESENTED AT INTERNATIONAL MEETINGS

---

1. **Workshop on Physical Virology.** The Abdus Salam International Centre for Theoretical Physics. Title: “*Selective HIV-1 Gag-RNA interactions require a series of specific interactions distributed across the 5’-UTR*”. Trieste, Italy July 17-21 2017.
2. **5<sup>th</sup> Gordon Conference on Physical Virology.** Title: “*Selective HIV-1 Gag-RNA interactions require a series of specific interactions distributed across the 5’-UTR*”. Il Ciocco en Lucca (Barga), Italy January 29<sup>th</sup>-February 3<sup>rd</sup> 2017.
3. **FASEB Viral Structure & Assembly Meeting,** Title: “*In vitro selective binding between the HIV-1 packaging signal and Gag is driven by a delicate balance between specific and non-specific interactions.*” Steamboat Spring, Colorado, USA July 24-29 2016.
4. **Structural Biology Related to HIV/AIDS meeting.** Title: “*In vitro selective binding between the HIV-1 packaging signal and Gag is driven by a delicate balance between specific and non-specific interactions*”. Bethesda, Maryland, USA June 23-24 2016.
5. **Structural Biology Related to HIV/AIDS meeting.** Title: “*Understanding HIV-1 packaging signal by single-molecule spectroscopy*”. Bethesda, Maryland, USA June 18-19 2015.
6. **4<sup>th</sup> Gordon Conference in Physical Virology.** Title: “*Single-molecule studies on HIV-1 Gag/RNA interactions*”. Ventura Beach, California, USA del January 25-30 2015.
7. **The Cold Spring Harbor Laboratory Meeting in Retroviruses.** Title: “*Single-molecule studies on HIV-1 Gag/RNA interactions*”. Cold Spring Harbor, Nueva York, USA May 19-24 2014.
8. **3<sup>rd</sup> Gordon Conference in Physical Virology.** Title: “*Characterization of viral capsid protein self-assembly around short single-stranded RNA*”. Ventura Beach, California, January 20-25 2013.
9. **Gordon Conference on Physical Virology Gordon-Kenan Research Seminar.** Title: “*Characterization of viral capsid protein self-assembly around short single-stranded RNA*”. Ventura Beach, California, January 19-20 2013.
10. **FASEB Viral Structure & Assembly Meeting.** Title: “*In vitro quantification of the relative packaging efficiency of single-stranded RNA molecules by viral capsid protein*”. Vermont Academy, Saxtons River, Vermont, USA June 10-15 2012.
11. **2<sup>nd</sup> Gordon Conference on Physical Virology.** Title: “*Measuring the in-vitro packaging efficiency of single-stranded RNA Viruses*”. Ventura Beach, California, USA January 16-21 2011.
12. **Gordon Conference on Physical Virology Gordon-Kenan Research Seminar.** Title: “*Measuring the in vitro packaging efficiency of single-stranded RNA Viruses*”. Ventura Beach, California, USA del January 15-16 2011.
13. **International Workshop on Current Problems in Complex Fluids; Self-Assembly in Biology and Material Science.** Title: “*Measuring the packaging efficiency of single-stranded viruses*”. Huatulco, Oaxaca, Mexico June 9-12 2010.
14. **5<sup>th</sup> International Workshop on Current Problems in Complex Fluids; Physical and Chemical Aspects of Molecular Biology.** Title: “*Physicochemical behavior of CCMV as a nanoparticle at the air/water interface*”. Puebla, Puebla, México, January 3-6 2007.