

Statement of Interest
Application for Nomination to the IUIS Council

CDMX, April 7th 2025.



To the Executive Committee of the Sociedad Mexicana de Inmunología,

I respectfully express my interest in being nominated by the Sociedad Mexicana de Inmunología (SMI) to serve on the Council of the International Union of Immunological Societies (IUIS), representing both Mexico and the Latin American and Caribbean Immunology Association (ALACI).

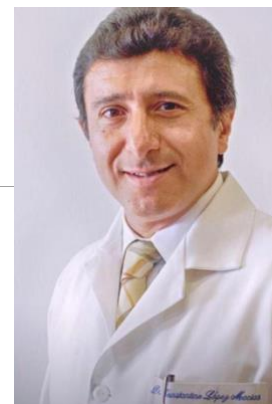
As an active member of the immunological communities of Mexico and Latin America, I am strongly committed to contributing to the mission of IUIS and advancing immunology as a global, inclusive, and collaborative discipline. I fully support the vision of “Immunology without Borders” and believe that strengthening regional representation, fostering integration, and promoting cooperation are essential to ensuring our region’s growing impact on the international stage.

If elected to serve, I will work closely with the IUIS Council to help unite the immunology communities of Mexico and ALACI with the broader global network. I aim to support international research collaborations that amplify the voices and strengths of Latin American immunologists. While no single individual can achieve these objectives alone, I am confident that my experience and dedication will allow me to contribute meaningfully to IUIS efforts, particularly in empowering early-career researchers and underrepresented groups through improved access to training, funding, and scientific visibility. I am also committed to promoting gender equity and broader inclusion in scientific leadership. I will support IUIS initiatives to raise awareness of key immunological challenges relevant to global health, expand cooperation through strengthened communication platforms, and contribute to international education via congresses, regional meetings, and focused workshops. I hope to encourage greater participation from our region in *Frontiers in Immunology*, IUIS’s official journal, as well as in initiatives related to standardisation, nomenclature, and research toolkits. Additionally, I believe that expanding “Building Immunologists” programmes tailored to our region’s needs is key to long-term impact.

My longstanding involvement with SMI has given me valuable experience aligned with these goals. Since 2004, I have served in various leadership roles including Pro-Secretary, Secretary-Treasurer, Vice President, and President (2014–2016). During my presidency, I led Mexico’s candidacy to host the International Congress of Immunology, presented in 2016 in Melbourne—an effort that demonstrated the strength and readiness of our region for global engagement. Since then, I have continued contributing as Past-President, supporting SMI committees and co-organising educational initiatives with institutions such as the National Academy of Medicine. I believe that my academic and clinical experience in immunology, along with a proven record of leadership and a strong commitment to inclusive scientific development, position me to serve the IUIS Council effectively. It would be an honour to represent the SMI and ALACI, and to contribute to global efforts in strengthening immunology as a cornerstone of science, health, and international collaboration.

Thank you for your kind consideration.

Sincerely,
Dr Constantino Roberto López-Macías



1. GENERAL INFORMATION

Date of Birth: 24 July 1968

Place of Birth: Mexico City, Mexico

Nationality: Mexican

Tax ID (RFC): LOMC680724DUA

CURP: LOMC680724HDFPCN00

Social Security Number: 11976804242

Marital Status: Married, two children

Work Address:

Medical Research Unit in Immunochemistry (UIMIQ),
1st Floor, UMAE Hospital de Especialidades, National Medical Centre "Siglo XXI", IMSS,
Av. Cuauhtémoc 330, Col. Doctores, Cuauhtémoc Borough,
Mexico City, Mexico, ZIP 06720

Postal Address:

UIM in Immunochemistry, Health Research Coordination,
4th Floor, Block B, Congress Unit, National Medical Centre "Siglo XXI", IMSS
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ORCID: [0000-0003-0530-492X](https://orcid.org/0000-0003-0530-492X)

SCOPUS ID: [6602302979](https://scopus.com/authid/detail.uri?https://orcid.org/0000-0003-0530-492X)

Web of Science Researcher ID: ABG-3414-2021

Google Scholar: [Profile](#)

PubMed: [Search](#)

IMSS Science: [Profile](#)

Mexican Society for Immunology: [Website](#)

Frontiers: [Loop Profile](#)

ResearchGate: [Profile](#)

SYNOPSIS

Dr López-Macías is a Pharmaceutical Biological Chemist from the Faculty of Chemistry, and holds a Master's and PhD in Biomedical Sciences (Immunology) from the Faculty of Medicine at the National Autonomous University of Mexico (UNAM), under the supervision of Dr Armando Isibasi and Dr Vianney Ortiz. During his PhD, he completed a three-year research fellowship at the Institute of Experimental Immunology, University of Zurich, Switzerland, under the guidance of Nobel Laureate Prof. Rolf Zinkernagel and Prof. Hans Hengartner (Ernst Jung Prize in Medicine), and was a guest student at ETH Zurich.

He is currently Senior Researcher D and Head of the Medical Research Unit in Immunochemistry (UIMIQ) at the UMAE Specialty Hospital, National Medical Centre "Siglo XXI", IMSS. He is also a Level III member of the National System of Researchers (SNI). His primary research focus is immunology, particularly inflammation, long-term protective immune responses, and their application to the development of adjuvants and vaccines against Salmonella, influenza, and COVID-19.

He is the inventor of multiple vaccines and adjuvants protected by 12 patents (7 granted) and has authored over 150 scientific publications with an H-index of 38. He has supervised 11 PhD candidates, 25 MSc students, 2 medical specialists, and 38 undergraduate theses. In addition to biomedical research, he has led clinical studies, including COVID-19 clinical protocols starting in 2020 and participation in therapeutic trials.

He was a key member of the team behind the Mexican COVID-19 vaccine AVX/COVID-12 "Patria", from initial antigenicity studies through Phase 1–3 trials. The vaccine was approved for use in Mexico in 2024, becoming the first nationally developed and approved vaccine, and established the infrastructure for future vaccine production.

He directed the largest global Phase 2 clinical trial of a virus-like particle (VLP) influenza A(H1N1) vaccine in 2009 with 4,550 volunteers, and co-directed a Phase 1 trial of the typhoid vaccine "Isipor" in 2002. He is also a founding member of the Mexico Centre for Clinical Research (MCCR), a clinical research centre for drug trials, particularly in oncology and autoimmunity.

Dr López-Macías is a Lecturer in Immunology at the Faculty of Chemistry, UNAM, and teaches in UNAM's graduate programmes in Biomedical and Biochemical Sciences, and in the Immunology programme at IPN. He is a member of the Mexican Academy of Sciences, the National Academy of Medicine, and served as President of the Mexican Society for Immunology (SMI) from 2014–2016.

He has been recognised as Visiting Professor of Immunology at the Nuffield Department of Medicine, University of Oxford, UK; serves on the Management Oversight Board of BactiVac at the University of Birmingham, UK; and is a founding member of the Mexican Translational Immunology Research Group (FOCIS Centre of Excellence). He is also a fellow of the 5th cohort of the Leaders of Innovation Fellowship from the Royal Academy

of Engineering, Newton Fund, British Embassy, Ministry of Economy, and CONACYT Mexico.

He serves on Mexico's National Committee on Public Health Science, Technology and Innovation (CONACYT), the Ministry of Foreign Affairs' COVID-19 Scientific Consortium, the Ministry of Health's National Vaccine Advisory Group, and COFEPRIS's New Molecules Committee. He is Associate Editor for *Frontiers in Immunology – Vaccines and Molecular Therapeutics*, *Frontiers in Drug Safety and Regulation – Vaccine Safety and Regulation*, and an Editorial Board member of *Vaccine* (Elsevier).

1.1 PROFESSIONAL EXPERIENCE

Since 3 November 1997 – Present

Researcher, IMSS

ID: 10229469

Head of Unit, Medical Research Unit in Immunochemistry (UIMIQ), 1st Floor, UMAE Hospital de Especialidades “Bernardo Sepúlveda”, National Medical Centre “Siglo XXI”, IMSS, Mexico City.

Seniority: 28 years in research.

Academic positions (based on evaluation):

Senior Researcher D (2022–2027, 2017–2022, 2012–2017)

Senior Researcher B (2009–2012)

Senior Researcher A (2005–2009)

Associate Researcher B (1998–2005)

Associate Researcher A (1997–1998)

Responsibilities: Conduct and lead scientific research, technological development, innovation, and training of human resources at IMSS.

Appointments at IMSS (Trust Positions):

- Head of Research Unit 80 N60: from 1 December 2022 – Present
- Senior Researcher C 80 N58: 16 December 2013 – 30 November 2022
- Senior Medical Researcher A 80 N55: 1 March 2006 – 15 December 2013
- Associate Researcher B N50: 1 April 1998 – 28 February 2006
- Associate Researcher A N49: 3 November 1997 – 28 February 1998

1996–2026

Member, National System of Researchers (SNI)

File No. 16329

Level III (2022–2026, 2017–2021); Level II (2008–2016); Level I (2000–2007); Candidate (1996–2000)

Responsibilities: Conduct and lead scientific research at IMSS, publish and/or patent results, and train undergraduate, Master's and PhD students in scientific research.

2009

Principal Investigator (ICH-GCP Clinical Research) for a Phase 2 trial evaluating safety and immunogenicity of a virus-like particle (VLP) based A(H1N1) influenza vaccine.

Sponsored by NOVAVAX INC USA and AVIMEX S.A. de C.V. Mexico. Enrolled 4,550 volunteers in 5 months at IMSS.

2005–Present

Scientific Advisor, Folia Biotech Inc., Quebec, Canada (unpaid)

2003–2004

Scientific Advisor, Member of the Scientific Advisory Board, Citaris Pharma, Quebec, Canada

1996–1999

Research Fellow, Institute of Experimental Immunology, University of Zurich and ETH Zurich, Switzerland. Mentors: Prof. Rolf Zinkernagel (Nobel Prize, 1996) and Prof. Hans Hengartner (Ernst Jung Prize, 1997). Research on antiviral immune responses.

1993–1994

External Technical Advisor, Viromex S.A. de C.V.

1992–Present

Part-time Lecturer in Immunology, Faculty of Chemistry, UNAM. Teaching General Immunology Laboratory to Pharmaceutical Biology Chemistry students (4 hours/week)

1992

Research Internship: Molecular biology techniques for vaccine development. Center for Vaccine Development, University of Maryland, Baltimore, USA.

1989

Quality Control Internship, Mayonnaise Production. Quality Control Department, McCormick.

1987

Research Internship, Institute of Biomedical Research, UNAM. Laboratory of Dr Carlos Larralde. Research on *Cysticercus crassiceps* as a vaccine model against cysticercosis.

1.2 HONORARY APPOINTMENTS AND RECOGNITIONS (UNPAID)

INTERNATIONAL

2025

Editorial Board Member, *Vaccine* (Elsevier), official journal of the Japanese Society for Vaccinology. Impact Factor 2024: 4.5.

Role: Overseeing peer-review process for articles on vaccines, adjuvants and immunotherapy.

2023–Present

Associate Editor, *Frontiers in Drug Safety and Regulation – Vaccine Safety and Regulation*.

Role: Supervising peer-review of submissions on vaccines, adjuvants, and immunotherapy.

2022–Present

Associate Editor, *Frontiers in Immunology – Vaccines and Molecular Therapeutics*, Lausanne, Switzerland. Official journal of the IUIS. Impact Factor 2022: 8.786.

Role: Overseeing peer-review process.

2017–Present

Member, Management Oversight Board, BactiVac Bacterial Vaccine Network. MRC and University of Birmingham, UK.

Role: Supporting the development of bacterial vaccines for global health. [Website](#)

2012–2020

Visiting Professor of Immunology, Nuffield Department of Clinical Medicine, University of Oxford, UK.

Role: Promote academic and scientific collaboration between Oxford, IMSS, and institutions in Mexico.

2012

Visiting Academic, Peter Medawar Building for Pathogen Research, Nuffield Department of Clinical Medicine, University of Oxford, UK

2009–Present

Member, STARS for Leaders of the Next Generation, Switzerland. International leadership development platform. [Website](#)

May–September 2003

Adjunct Faculty, Associate Professor, University of Texas Health Science Center, San Antonio, Texas, USA

NATIONAL**2020–Present**

Member, New Molecules Committee, COFEPRIS, Mexico.

Role: Provide scientific and technical evaluation of health products, mainly vaccines.

2020–Present

Member, National Vaccine Technical Advisory Group, Ministry of Health, Mexico.

Role: Provide guidance on COVID-19 vaccine prioritisation.

2020–Present

Member, National Committee on Public Health Science, Technology and Innovation, CONACYT.

Role: Evaluate health technologies and products for use in Mexico. [More Info](#)

2020–Present

Member, Consortium of Innovative Scientists against COVID-19, Ministry of Foreign Affairs, Mexico.

Role: Promote the development of biotech products (e.g., vaccines) against COVID-19.

2019–Present

Fellow, 5th Generation Leaders of Innovation Fellowship, Royal Academy of Engineering, Newton Fund UK, British Embassy, Ministry of Economy and CONACYT Mexico.

Role: Promote technological innovation in Mexico and build international links.

2017–Present

Member, Mexican Translational Immunology Research Group. FOCIS Centre of Excellence.

Role: Support translation of IMSS research to patient care.

2016–Present

Full Member, National Academy of Medicine of Mexico.

Role: Promote medical research, education, and public dissemination of scientific outputs.

1993–Present

Member, Mexican Society for Immunology (SMI). Roles: President (2014–2016), Vice President (2012–2014), Secretary-Treasurer (2004–2006), Deputy Treasurer (2002–2004), Full Member (since 2000), Student Member (1993–2000).

Role: Promote immunology in Mexico, organise national congresses, seminars, workshops, awards, and represent SMI internationally.

2011–Present

Founding Member and Secretary, Mexico Centre for Clinical Research.

Role: Promote clinical research in Mexico.

2008–Present

Member, Mexican Academy of Sciences.

Role: Support scientific, technological, and innovation development in Mexico.

2. EDUCATION

- **1995 – 21 September 2001**

PhD in Biomedical Sciences (Immunology)

Faculty of Medicine, National Autonomous University of Mexico (UNAM), in collaboration with the Institute of Experimental Immunology, University Hospital of Zurich / ETH Zurich, Switzerland.

Thesis: “Study of the mechanisms involved in the generation of protective antibodies.”

Professional Licence No.: 3664925

Supervisors: Dr Vianney Ortiz, Dr Armando Isibasi, Prof Hans Hengartner, and Prof Rolf Zinkernagel.

- **1992 – 4 December 1995**

MSc in Biomedical Sciences (Immunology)

Faculty of Medicine, UNAM.

Thesis: “Cytotoxic T lymphocyte response against OmpC porin from *Salmonella typhi*”

Graduated with Honours.

Professional Licence No.: 2317992

Supervisor: Dr Vianney Ortiz.

- **1986 – 9 October 1992**

BSc in Pharmaceutical Biological Chemistry

Faculty of Chemistry, UNAM.

Thesis: “Synthesis of a Vi antigen–porin conjugate from *Salmonella typhi*”

Professional Licence No.: 1790276

Supervisor: Dr Armando Isibasi.

3. RESEARCH INTERESTS

Title: Induction of Long-Term Protective Immunity

Overview:

Study of inflammatory mechanisms involved in the induction of long-lasting immune responses and the application of this knowledge in the development of new adjuvants, vaccines, and immunotherapies.

Current Projects:

- Development of vaccines against typhoid, paratyphoid, and non-typhoidal salmonellosis using *Salmonella* porins.
- Development of adjuvants based on plant viruses and *Salmonella* proteins.
- Design of immunotherapeutic agents using microbial antigens.
- Development of influenza vaccines for human and veterinary use.
- Study of inflammatory responses and immunity in *Ambystoma mexicanum* (axolotl).
- Research on immune responses and their application in the development of SARS-CoV-2 vaccines.
- COVID-19 vaccine development (Scientific Team Member of the Mexican “Patria” vaccine project).

4. PATENTS

Granted:

- **P7.** 6 July 2022. *Multivalent vaccine containing porins from S. Typhi and S. Typhimurium for typhoid, paratyphoid and non-typhoidal salmonellosis.* Inventors: Constantino III Roberto López-Macías and Armando Isibasi. File No. MX/a/2015/017677 (18 Dec 2015). Patent Title No. 395308 granted 26 August 2022. Valid until 18 December 2035.
- **P6.** 11 October 2019. *Adjuvant composition based on the OmpS1 porin of Salmonella enterica serovar Typhi.* Inventors: Constantino III Roberto López-Macías and Edmundo Calva Mercado. Application MX/a/2009/013223. Patent No. MX372129 granted.
- **P5.** 11 October 2019. *Adjuvant composition based on the OmpS2 porin of Salmonella enterica serovar Typhi.* Inventors: Constantino III Roberto López-Macías and Edmundo Calva Mercado. Application MX/a/2009/013222. Patent No. MX/2019/85438 granted.
- **P4.** 30 March 2017. *Adjuvant-free vaccine compositions containing porins from Salmonella enterica serovar Typhi.* Inventors: Armando Isibasi Araujo and Constantino III Roberto López-Macías. Patent No. MX346872 granted.
- **P3.** 24 January 2012. *Vaccines and immunopotentiating compositions and methods for making and using them.* United States Patent No. 8,101,189 B2. Inventors: Denis Leclerc, Nathalie Majeau, Constantino III Roberto López-Macías, Alain Lamarre.
- **P2.** 18 August 2011. *Adjuvant compositions based on porins from Salmonella enterica serovar Typhi.* Inventors: Armando Isibasi Araujo and Constantino III Roberto López-Macías. Application No. PA/E/2006/080654. Patent No. MX292850 granted.

- **P1.** 5 January 2010. *Adjuvant Viral Particle*. United States Patent No. US 7,641,896B2. Inventors: Denis Leclerc, Nathalie Majeau, Philippe Tessier, Constantino III Roberto López-Macías. International Patent Application No. PCT/CA03/00985 (WO2004004761 A).

National phases of P1 granted:

- **RP1.1.** 30 July 2010. Mexican Patent No. MX282228 B. Application No. PA/a/05/000287.
- **RP1.2.** China – Patent No. CN1665528B granted.
- **RP1.3.** Europe – Patent No. EP1523329 granted.
- **RP1.4.** Japan – Patent No. JP4953570 B granted. Application No. 2004-518318.
- **RP1.5.** Canada – Patent Application No. CA2434000.
- **RP1.6.** Hong Kong – Patent Application No. 05109287.8.

Under Evaluation:

- **RP5.** 20 September 2021. *Recombinant COVID-19 vaccine designed to produce cellular responses in individuals with pre-existing immunity*. Inventors: Bernardo Lozano Dubernard, Ernesto Soto Priante, David Sarfati Mizrahi, Héctor Elías Chagoya Cortés, Constantino III Roberto López-Macías, Peter Palese, Adolfo García-Sastre, Florian Krammer, Weina Sun, Martha Torres Rojas. PCT/IB2022/058886. Application MX/a/2021/011439.
- **RP4.** 28 October 2021. *Anti-tumour immunopotentiating compositions prepared with Salmonella porins and their use in cancer treatment*. Inventors: Constantino III Roberto López-Macías and Laura Cecilia Bonifaz Alfonzo. Application No. MX/a/2021/013378.

5. GRANTS

53 competitive research grants awarded as Principal Investigator for basic, clinical, and translational research

6. PUBLICATIONS

Citation Metrics:

- SCOPUS: 2,963 citations; h-index: 33
- Google Scholar: 4,570 citations; h-index: 37; i10-index: 78
- ORCID: <https://orcid.org/0000-0003-0530-492X>

6.1 Peer-Reviewed International Journal Publications

A117. **2025. Constantino López-Macías**, Eduardo López-Medina, Maysa Bonfleur Alves, Aline da Rocha Matos, Juan V. Hernández-Villena, Zuleika Aponte-Torres, Laura E. Sarabia, Paula Manrique-Ramirez, Luis F. Tejado-Gallegos, Larisa Ramirez Gutierrez, Wilhelmine Meeraus, Bárbara Emoingt Furtado. Clinical characteristics, SARS-CoV-2 variants, and outcomes of adults hospitalized due to COVID-19 in Latin American countries. (Accepted in Clinics 2025)

A116. **2025. Constantino López-Macías***, Martha Torres, Brenda Armenta-Copca, Niels H. Wachter, Arturo Galindo-Fraga, Laura Castro-Castrezana, Andrea Alicia Colli-Domínguez, Edgar Cervantes-Trujano, Isabel Erika Rucker-Joerg, Fernando Lozano-Patiño, Juan José Rivera-Alcocer, Abraham Simón-Campos, Efrén Alberto Sánchez-Campos, Rafael Aguirre-Rivero, Alejandro José Muñiz-Carvajal, Luis del Carpio-Orantes, Francisco Márquez-Díaz, Tania Rivera-Hernández, Alejandro Torres-Flores, Luis Ramírez-Martínez, Georgina Paz-De la Rosa, Oscar Rojas-Martínez, Alejandro Suárez-Martínez, Gustavo Peralta-Sánchez, Claudia Carranza, Esmeralda Juárez, Horacio Zamudio-Meza, Laura E. Carreto-Binaghi, Mercedes Viettri, Damaris Romero-Rodríguez, Andrea Palencia, David Sarfati-Mizrahi, Weina Sun, Héctor Elías Chagoya-Cortés, Felipa Castro-Peralta, Peter Palese, Florian Krammer, Adolfo García-Sastre, and Bernardo Lozano-Dubernard*. **Phase II/III Study Evaluating Safety, Immunogenicity, and Non-Inferiority of Single Booster Dose of AVX/COVID-12 Vaccine. * Corresponding authors (Accepted in Science Advances 2025)**

A115. **2024. Constantino López-Macías***, Martha Torres, Brenda Armenta-Copca, Niels H. Wachter, Laura Castro-Castrezana, Andrea Alicia Colli-Domínguez, Tania Rivera-Hernández, Alejandro Torres-Flores, Matilde Damián-Hernández, Luis Ramírez-Martínez, Georgina Paz-De la Rosa, Oscar Rojas-Martínez, Alejandro Suárez-Martínez, Gustavo Peralta-Sánchez, Claudia Carranza, Esmeralda Juárez, Horacio Zamudio-Meza, Laura E. Carreto-Binaghi, Mercedes Viettri, Damaris Romero-Rodríguez, Andrea Palencia, Edgar Reyna-Rosas, José E. Márquez-García, David Sarfati-Mizrahi, Weina Sun, Héctor Elías Chagoya-Cortés, Felipa Castro-Peralta, Peter Palese, Florian Krammer, Adolfo García-Sastrem, **Bernardo Lozano-Dubernard***. Phase II study on the safety and immunogenicity of single-dose intramuscular or intranasal administration of the AVX/COVID-12 “Patria” recombinant Newcastle disease virus vaccine as a heterologous booster against COVID-19 in Mexico. Vaccine, 43(2025)126511 <https://doi.org/10.1016/j.vaccine.2024.126511> *Corresponding Authors. **IF=4.5**

A114. **2024.** Martha Giles-Gómez, Ximena Morales Huerta, Rodolfo Pastelin-Palacios, Constantino López-Macías, Mayrene Sarai Flores Montesinos, Fernando Astudillo-Melgar, Adelfo Escalante. Analysis of the potential probiotic potential of actiplantibacillus plantarum LB1_P46 isolated from the Mexican fermented pulque beverage: A functional and genomic analysis. Microorganisms.12(8):1652. doi: 10.3390/microorganisms12081652.PMID: 39203494 **IF=4.1**

A113. **2024.** Alejandro Torres-Flores, Luis Alberto Ontiveros-Padilla, Ruth Lizzeth Madera-Sandoval, Araceli Tepale-Segura, Julián Gajón-Martínez, Tania Rivera-Hernández, Eduardo Antonio Ferat-Osorio, Arturo Cérbulo-Vázquez, Lourdes Andrea Arriaga-Pizano, Laura Bonifaz, Georgina Paz-De la Rosa, Oscar Rojas-Martínez, Alejandro Suárez-Martínez, Gustavo Peralta-Sánchez, David Sarfati-Mizrahi, Weina Sun, Héctor Elías Chagoya-Cortés, Peter Palese, Florian Krammer, Adolfo García-Sastre, Bernardo Lozano-Dubernard*, **Constantino López-Macías***. Newcastle

disease virus vector-based SARS-CoV-2 vaccine candidate AVX/COVID-12 activates T cells and is recognized by antibodies from COVID-19 patients and vaccinated individuals. *Frontiers in Immunology* Volume 15-2024
<https://doi.org/10.3389/fimmu.2024.1394114>.

A112. **2024**. Alejandro Torres-Flores, Isabel Wong-Baeza y Constantino López-Macías. El papel de las células T de memoria en la COVID-19: implicaciones en la inmunidad y la protección a largo plazo. *Gac Med Mex*. 160(2):128-135. doi: 10.24875/GMM.M24000878. PMID: 39116861

A111. **2024**. Marco Alejandro Jiménez-Ochoa, María Margarita Contreras-Serratos, Martha Leticia González-Bautista, Constantino López-Macías, Lourdes Andrea Arriaga- Pizano, Miriam Elizabeth Aguilar-Marquez. Survival after hematopoietic stem cell transplantation with identical and haploidentical donors. *Rev Med Inst Mex Seguro Soc*. 2024;62 Supl 2:e5569. IF= 0.112.

A110. **2023**. Selin Parmaksız, Mert Pekcan, Aykut Özkul, Ece Türkmen, Vanessa Rivero-Arredondo, Luis Ontiveros-Padilla, Neil Forbes, Yvonne Perrie, **Constantino López-Macías** and Sevda Şenel. In vivo evaluation of new adjuvant systems based on combination of Salmonella Typhi porins with particulate systems: liposomes versus polymeric particles. *Int J Pharm*. 2023 Nov 2;648:123568. doi: 10.1016/j.ijpharm.2023.123568. Online ahead of print. PMID: 37925042. **IF=6.51**

A109. **2023**. Ruth Madera-Sandoval, Arturo Cérbulo-Vázquez, Lourdes Arriaga-Pizano, Graciela Cabrera-Rivera, Edna Basilio-Gálvez, Patricia Miranda-Cruz, María García de la Rosa, Jessica Prieto-Chávez, Silvia Rivero-Arredondo, Alonso Cruz-Cruz, Daniela Rodríguez-Hernández, María Salazar-Ríos, Enrique Salazar-Ríos, Esli Serrano-Molina, Roberto De Lira-Barraza, Abel Humberto Villanueva-Compean, Alejandra Esquivel-Pineda, Rubén Ramírez-Montes de Oca, Omar Unzueta-Marta, Guillermo Flores-Padilla, Juan Anda-Garay, Luis Sánchez-Hurtado, Salvador Calleja-Alarcón, Laura Romero-Gutiérrez, Rafael Torres-Rosas, Laura Bonifaz, Rosana Pelayo, Edna Márquez-Márquez, **Constantino López-Macías**, and Eduardo Ferat Osorio. Potential biomarkers for fatal outcome prognosis in a cohort of hospitalized COVID-19 patients with pre-existing co-morbidities. *Clin Transl Sci*. 2023 Dec;16(12):2687-2699. doi: 10.1111/cts.13663. Epub 2023 Nov 9. IF= 4.516.

A108. **2023**. Jessica Sánchez-Vargas, Tania Rivera-Hernández, Nestor D. Ortega-de la Rosa, Dariana Hernández-Olivares, and **Constantino López-Macías**. From shake flask to bioreactor: production of Salmonella Typhi porins as a typhoid vaccine candidate. *Biochemical Engineering Journal*, 200, art. no. 109091. DOI: [10.1016/j.bej.2023.109091](https://doi.org/10.1016/j.bej.2023.109091) Part of ISSN: [1369-703X](https://doi.org/10.1016/j.bej.2023.109091) **IF=3.9**

A107. **2023**. Ponce-de-León S, Torres M, Soto-Ramírez LE, Calva JJ, Santillán-Doherty P, Carranza-Salazar DE, Carreño JM, Carranza C, Juárez E, Carreto-Binaghi LE,

Ramírez-Martínez L, Paz De la Rosa G, Vigueras-Moreno R, Ortiz-Stern A, López-Vidal Y, Macías AE, Torres-Flores J, Rojas-Martínez O, Suárez-Martínez A, Peralta-Sánchez G, Kawabata H, González-Domínguez I, Martínez-Guevara JL, Sun W, Sarfati-Mizrahi D, Soto-Priante E, Chagoya-Cortés HE, **López-Macías C**, Castro-Peralta F, Palese P, García-Sastre A, Krammer F, Lozano-Dubernard B. Interim safety and immunogenicity results from an NDV-based COVID-19 vaccine phase I trial in Mexico. NPJ Vaccines. May 10;8(1):67. doi: 10.1038/s41541-023-00662-6.PMID: 37164959. **IF= 9.39**

A106. **2023.** Jacobo Carrisoza-Urbina, Mario Bedolla-Alva, Rogelio Hernandez-Pando, **Constantino López-Macías**, Guillermina Baay-Guzmán, Sara Huerta-Yepez, Mireya Juárez-Ramírez, José Ángel Gutiérrez-Pabello. Mycobacterium bovis naturally infected calves present a higher bacterial load and proinflammatory response than adult cattle. Front Vet Sci. Apr 27;10:1105716. doi: 10.3389/fvets.2023.1105716. eCollection 2023.PMID: 37180066 IF=3.2 Q1 Vet Sci

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- A18. **2006.** Wong-Baeza, Isabel; González-Roldán, Nestor; Ferat-Osorio, Eduardo; Esquivel-Callejas, Noemí; Aduna-Vicente, Rosalía; Arriaga-Pizano, Lourdes; Astudillo-de la Vega, Horacio; Villasis-Keever, Miguel-Angel; Torres-González, Rubén; Estrada-García, Iris; **Lopez-Macias, Constantino**; Isibasi, Armando. Triggering receptor expressed on myeloid cells (TREM-1) is regulated post-transcriptionally and its ligand is present in the sera of some septic patients. *Clinical Experimental Immunology*. 145:448-455. PMID: 16907912. ISSN: 0009-9104. **IF: 2.747.**
- A17. **2006.** **Constantino López-Macías***, Ismael Secundino, Luisa Cervantes-Barragán, Cristina Gil-Cruz, Nora Ríos-Sarabia, Ingeborg Becker, José Luis Puente, Edmundo Calva and Armando Isibasi. *Salmonella* porins induce a sustained, life-long specific bactericidal antibody memory response. *Immunology*. 117:57-70. PMID: 16423041. ISSN: 0019-2805. ***Corresponding autor. IF: 3.674.**
- A16. **2005.** Carmen Maldonado-Bernal, Carsten J. Kirschning, Yvone Rosenstein, Luz María Rocha, Nora Rios-Sarabia, Martha Espinosa-Cantellano, Ingeborg Becker, Iris Estrada, Rosa María Salazar-González, **Constantino López-Macías**, Hermann Wagner, Joaquín Sánchez and Armando Isibasi. The innate immune response to *Entamoeba histolytica* Lipopeptidophosphoglycan is mediated by toll-like Receptors

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in human monocytes. Archives of Medical Research. 31:S71-S73 PMID: 11070229. ISSN: 0188-4409. **IF: 1.275.**

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A5. **2000.** Urs Karrer, **Constantino López-Macías**, Annette Oxenius, Bernard Odermatt, Martin F. Bachmann, Ulrich Kalinke, Alana Althage, Horst Bluethmann, Hans Hengartner and Rolf M. Zinkernagel. Antiviral high avidity IgG and B cell memory in the absence of follicular dendritic cells and germinal centres in TNFR1-/- mice. Journal of Immunology. 164:768-778. PMID: 10623822. ISSN: 0022-1767. **IF: 6.293**

A4. **1999.** **Constantino López-Macías***, Ulrich Kalinke, Marilia Cascalho, Matthias Wabl, Hans Hengartner, Rolf M. Zinkernagel and Alain Lamarre. Secondary Rearrangements and Hypermutation Generate Sufficient B Cell Diversity to Mount Protective Antiviral Immunoglobulin Responses. Journal of Experimental Medicine. 189(11):1791-1798. PMID: 10359583 ISSN: 0022-1007. ***Corresponding autor. IF:14.48.**

A3. **1995.** **Constantino López-Macías**, María Aurelia López-Hernández, César Raúl González, Armando Isibasi, and Vianney Ortiz-Navarrete. Induction of antibodies against *Salmonella typhi* OmpC porin by Naked DNA Immunization. Annals of the New York Academy of Sciences. 780:496-498. PMID: 8546410 ISSN: 0077-8923. **IF:1.930.**

A2. **1994.** Armando Isibasi, Jorge Paniagua, Martha Patricia Rojo, Natalia Martín, Guillermo Ramírez, César Raúl González, **Constantino López-Macías**, Joaquín Sánchez, Jesús Kumate and Vianney Ortiz-Navarrete. Role of porins from *Salmonella Typhi* in the induction of protective immunity. In Microbial Pathogenesis and Immune Response. Annals of the New York Academy of Sciences. 730:350-352. PMID: 7521604. ISSN: 0077-8923. **IF: 1.930.**

A1. **1992.** Jorge Paniagua, José Antonio García, **Constantino R. López**, César Raúl González, Armando Isibasi and Jesús Kumate. Vacunas Conjugadas contra infecciones bacterianas: Fiebre Tifoidea. Salud Pública Mex. 34:268-273. PMID: 1377407. ISSN 0036-3634. **IF: 0.7.**

6.2 Other Publications

6.2.1 Articles in Non-Indexed Peer-Reviewed Journals:

- Bonifaz LC, Ontiveros, López-Macías C. “The Role of T Cells in SARS-CoV-2 Infection.” Revista Médica del IMSS, 2020. Opinion/Outreach Article.
- Ontiveros-Padilla L, Rivera-Hernández T, López-Macías C. “Challenges in COVID-19 Vaccine Development.” Revista Médica del IMSS, 2020. COVID-19 Repository.
- López-Macías C, Rivera-Hernández T. “Antibodies and Protection Against COVID-19.” Revista Médica del IMSS, 2020. COVID-19 Repository.
- Ferat-Orsorio E, López-Macías C. “IL-6 Receptor Antibody Treatment in COVID-19: A Key to Reducing Mortality?” Revista Médica del IMSS, 2020. COVID-19 Repository.

6.2.2 Books:

- López-Macías C, Cunningham A (Eds.). *How Salmonella Infection Can Inform on Mechanisms of Immune Function and Homeostasis*. Frontiers in Immunology, 2016. ISBN: 978-2-88919-799-6. DOI: 10.3389/978-2-88919-799-6.
- López-Macías C. *Immunology. Así es la Medicina*. Mexico, 2018. ISSN: 2594-2719. www.asieslamedicina.org.mx

5.2.3 Book Chapters:

- Rivera-Hernández T, López-Macías C. “COVID-19 Vaccines.” In *Unofficial Versions of the COVID-19 Pandemic in Mexico: Critical Texts*, 2022. Benemérita Universidad Autónoma de Puebla. ISBN: 978-607-99746-2-6.
- López-Macías C, Ontiveros-Padilla L, Torres-Flores A, Rivera-Hernández T. “COVID-19 Vaccine Development.” In *COVID-19: Virology, Immunology, Clinical and Diagnostic Approaches*, Wolters Kluwer, 2021. ISBN: 9788418257261.
- Moreno-Eutimio MA, Pastelin-Palacios R, López-Macías C. “SARS-CoV-2 Structure and its Relevance for Diagnostics, Vaccines, and Treatments.” In *Therapeutic Management of Critical COVID-19 Patients*, 2020. ANMM.
- Klenerman P, López-Macías C. “Adaptive Immunity.” In *Oxford Textbook of Medicine* (6th ed.), Oxford University Press, 2020. DOI: 10.1093/med/9780198746690.001.0001.
- López-Macías C, Ontiveros-Padilla L. “Vaccines in Gastroenterology.” In *Microbiota and Diarrhoeal Diseases in Paediatrics*, Ed. Permanyer, 2019. ISBN: 978-84-17670-20-7.
- López-Macías C. “IMSS Contributions to Vaccine Research.” In *IMSS Contributions to Global Medicine*, IPN, 2018. ISBN: 978-607-414-611-0.

- López-Macías C et al. “Medical Research Unit in Immunochemistry.” In *Health Research*, Ed. Alfí, 2013. ISBN: 978-607-8283-41-5.
- Isibasi A, Wong-Baeza I, López-Macías C, et al. “Systemic Inflammatory Response Syndrome and Innate Immunity.” In *National Congress of Mexican Physicians*, Trillas, 2007. ISBN: 978-968-24-8400-1.
- Wong-Baeza I, González-Roldán N, López-Macías C, et al. “Molecular Analysis of Systemic Inflammation.” In *Roberto Kretschmer. In Memoriam*, UNAM, 2005.
- López-Macías C, Isibasi A. “Lambda Chains and Rearrangements in Protective Antibodies.” In *Health Research Facets Vol. 3*, IMSS, 2003. ISBN: 968-824-794-4.
- López-Macías C et al. “New Strategies for Vaccine Development.” In *Health Research Facets Vol. 2*, IMSS, 2002. ISBN: 968-7729-23-6.
- Isibasi A, Maldonado-Bernal C, López-Macías C. “Molecular Aspects of Innate Immunity in Sepsis.” In *Innovations in Critical Medicine Vol. II*, Ed. Prado, 2001. ISBN: 968-6899-46-4.
- Isibasi A, López-Macías C, et al. “Chimeric Proteins for Immune Induction.” In *Health Research Facets Vol. 1*, IMSS, 2001. ISBN: 96-7729-14-7.
- Isibasi A, Paniagua J, López-Macías C, et al. “Porins: Experimental Immunogens Against Typhoid Fever.” In *Vaccines: Foundations for Development*, Ed. El Manual Moderno/UNAM, 1996. ISBN: 968-36-4890-8 / 968-426-726-6.

6.2.4 Genomic Sequences Published in GISAID:

- 13 SARS-CoV-2 genomic sequences submitted to GISAID under the originating lab Unidad de Investigación Médica en Inmunoquímica, UMAE Hospital de Especialidades “Bernardo Sepúlveda”, IMSS. Accession numbers: EPI_ISL_1096983, EPI_ISL_1096985, EPI_ISL_1096141, EPI_ISL_1096142, EPI_ISL_6902058, EPI_ISL_6902048, EPI_ISL_6901971, EPI_ISL_6901967, EPI_ISL_6901963, EPI_ISL_6901962, EPI_ISL_6901869, EPI_ISL_6901115, EPI_ISL_6899772. Full authorship details available on request or via the GISAID database.

7. TRAINING AND MENTORSHIP SUMMARY

- **Researchers Trained (Postgraduate/Postdoctoral):** 6
- **Sabbatical Stays Supervised:** 1
- **PhD Theses Supervised:** 11
- **Doctoral Tutor Roles:** 1
- **Master’s Theses Supervised:** 25
- **Medical Specialty Theses Supervised:** 2
- **Bachelor’s Theses Supervised:** 38 (plus 1 pending)
- **Technical Advisory Roles (Bachelor level):** 2
- **Social Service Projects Supervised:** 13
- **Short Research Stays Supervised:** 4

8. INVITED LECTURES

- More than 160 invited presentations delivered at national and international scientific conferences, universities, and institutions.

9. AWARDS AND HONOURS

- 2024, 2022, 2021: IMSS Award for Research Excellence
- 2019: 1st Place in IMSS Technology Maturation Competition
- 2017–2021: Member of the National System of Researchers (SNI), Level III; previously Level II (2008–2016), Level I (2000–2007), and Candidate (1996–2000)
- 2016: 2nd Place, IMSS Health Innovation Award
- 2013: Member of the Senior Common Room, Brasenose College, University of Oxford, UK
- 2012–2020: Visiting Professor of Immunology, Nuffield Department of Medicine, University of Oxford, UK
- 2010: 1st Place, GLAXO-FUNSAUD Clinical Research Award for work on pandemic influenza immune response
- 2003–2023: Academic Service Recognition, Faculty of Chemistry, UNAM (10, 15, 20, 25, 30 years)
- 2007: 1st Place, CANIFARMA Award for Technological Research for novel adjuvant development using a plant virus
- 2000: 1st Place, CANIFARMA Award for Technological Research (collaborator), Phase I typhoid vaccine trial
- 1999: Ferdinand Worthmann Award, Swiss Society for Immunology and Allergy, Interlaken, Switzerland
- 1995: Honourable Mention, MSc in Immunology, Faculty of Medicine, UNAM
- 1986: National Science Prize (High School Level – Biology), Universidad del Valle de México
- Co-organiser, XVII National Immunology Congress (SMI), with participation of 600 attendees, 300 presentations, and 40 invited speakers including Nobel Laureates and internationally renowned immunologists

10. SCHOLARSHIPS

- 1997–1999: Swiss Government Research Fellowship
- 1996: UNAM Foundation Fellowship
- 1995–1998: Doctoral Studies Fellowship, CONACYT
- 1992–1996: IMSS Research Fellowship
- 1991: Undergraduate Thesis Fellowship, PUIS-UNAM

11. COMMUNITY SERVICE

- 2009: Federal Electoral Polling Station President, Mexico City

12. OTHER INTERESTS

- 1st Dan Black Belt, Tae Kwon Do, UNAM (2011)
- Member of the UNAM Tae Kwon Do National Team (1988–1990)



Belo Horizonte, April 12, 2025

**Dr. Joao Viola,
IUIS Secretary General**

Dear Dr Viola,

I hope this message finds you well.

As President of the Latin American and Caribbean Immunology Association (ALACI), I am pleased to submit our nominations and endorsements for the upcoming IUIS elections, scheduled for August 2025.

These nominations were thoroughly discussed and unanimously approved by all National Societies of Latin America and the Caribbean during the ALACI General Assembly at the XIV ALACI Congress, held in Buenos Aires, Argentina, in November 2024.

We formally nominate and endorse the following candidates for IUIS leadership positions:

- **Prof. Emilio L. Malchiodi** – Candidate for the position of **IUIS Vice-President (2025–2028)**
- **Dr. Joao P. B. Viola** – Candidate for the position of **IUIS General Secretary (2025–2028)**

Additionally, we nominate and endorse the following immunologists as candidates for IUIS Council Members (2025–2028):

- **Dr. Mariana Maccioni** (for a second term).
- **Dr. Sergio Costa Oliveira** (for a second term).
- **Dr. Constantino III Roberto López-Macías** (replacing Dr. Leopoldo Santos-Argumedo, who has completed two terms).

The CVs and personal statements for all nominees are attached for your review.

Please confirm receipt of the documents, and do not hesitate to reach out if any additional information is required.

My very best,

**Walderez Dutra
President, ALACI**