

Adolfo García-Sastre

CURRICULUM VITAE

Dr. García-Sastre is Professor in the Department of Microbiology and Director of the Global Health and Emerging Pathogens Institute of Mount Sinai School of Medicine in New York. For the past 25 years, his research interest has been focused on the molecular biology of influenza viruses and several other negative strand RNA viruses. During his post-doctoral training in the early 1990s, he developed, for the first time, novel strategies for expression of foreign antigens by a negative strand RNA virus, influenza virus. He has made major contributions to the influenza virus field, including 1) the development of reverse genetics techniques allowing the generation of recombinant influenza viruses from plasmid DNA, (studies in collaboration with Dr. Palese); 2) the generation and evaluation of negative strand RNA virus vectors as potential vaccine candidates against different infectious diseases, including malaria and AIDS, and 3) the identification of the biological role of the non structural protein NS1 of influenza virus during infection: the inhibition of the type I interferon (IFN) system. His studies provided the first description and molecular analysis of a viral-encoded IFN antagonist among negative strand RNA viruses. These studies led to the generation of attenuated influenza viruses containing defined mutations in their IFN antagonist protein that might prove to be optimal live vaccines against influenza. His research has resulted in more than 490 scientific publications and reviews. Dr. Garcia-Sastre is the director of the Center for Research on Influenza Pathogenesis, one of the five NIAID funded Centers of Excellence for Influenza Research and Surveillance. He was among the first members of the Vaccine Study Section and member of the Virology B Study Section of NIH. In addition, he has served for 5 years as Editor in Journal of Experimental Medicine, is Editor in PLoS Pathogens, Journal of Virology and Virus Research, and member of the Editorial Board of Virology, Vaccine, NPJ Vaccines, Current Topics in Microbiology and Immunology and Influenza and Other Respiratory Diseases. He is a member of the scientific advisory board of Keystone Symposia. He has been a co-organizer of the international course on Viral Vectors (2001), held in Heidelberg, Germany, sponsored by Federation of European Biochemical Societies (FEBS), and of the first Research Conference on Orthomyxoviruses in 2001, held in Teixel, The Netherlands, sponsored by the European Scientific Working Group on Influenza (ESWI). He has also been a co-organizing of the 7th International Society for Vaccines meeting in 2013, and of Keystone Meetings in 2014 on Respiratory Virus Pathogenesis and in 2017 on Interferons. His publication in Science on the reconstruction and characterization of the pandemic influenza virus of 1918 has been awarded with the distinction of the paper of the year 2005 by Lancet. In 2005, he became a Fellow of the American Academy of Microbiology, and in 2009, he received the Beijerinck Professorship from the National Academy of Sciences of the Netherlands. In 2011, he has been elected President of the International Society for Vaccines, for 2014 and 2015. In 2017, he has been elected a fellow of the Royal Academy of Pharmacy in Spain.

1.- PERSONAL INFORMATION

NAME: **Adolfo GARCIA-SASTRE**. SEX: Male.

DATE & PLACE OF BIRTH: October 10, 1964; Burgos, Spain.

CITIZENSHIP: USA .

OFFICE ADDRESS: Department of Microbiology, Icahn School of Medicine at Mount Sinai,
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2.- EDUCATION

-**Bachelor** in Biological Sciences, Faculty of Biology, University of Salamanca, Spain. 1986.
Mark obtained: "Sobresaliente" (highest possible mark in Spain).

-**Master** in Biochemistry, Faculty of Biology, University of Salamanca, Spain. 1986.
Mark obtained: "Sobresaliente" (highest possible mark in Spain).

-**Ph.D.** in Biochemistry and Molecular Biology, Faculty of Biology, University of Salamanca,
Spain. 1990.
Mark obtained: "Sobresaliente cum laude".

-**Post doctoral fellow** in Microbiology, Mount Sinai School of Medicine, New York, USA.
1991-1994.

3.- RESEARCH EXPERIENCE

-**Research Fellow**, Department of Biochemistry and Molecular Biology, Faculty of Biology,
University of Salamanca, Spain. January 1987 to December 1990. **Topic:** Structure and function
of Newcastle Disease Virus.

-**Research Fellow**, Unité d'Ecologie Virale, Institut Pasteur, Paris, France, November 1987 -
December 1987. **Topic:** Immunological characterization of Influenza A and B viruses.

-**Research Fellow**, Unité d'Ecologie Virale, Institut Pasteur, Paris, France, April 1989. **Topic:**

Serology of Influenza C virus in men and dogs.

-Postdoctoral Research Fellow, Department of Microbiology, Mount Sinai School of Medicine, New York, USA. February 1991 to December 1994. **Topic:** Genetic manipulation of influenza viruses.

-Research Assistant Professor, Department of Microbiology, Mount Sinai School of Medicine, New York, USA. January 1995 to December 1996.

-Assistant Professor, Department of Biochemistry and Molecular Biology, University of Salamanca School of Medicine, Salamanca, Spain. March 1995 to February 1997.

-Assistant Professor, Department of Microbiology, Mount Sinai School of Medicine, New York, USA. January 1997 to July 2001.

-Associate Professor, Department of Microbiology, Mount Sinai School of Medicine, New York, USA. July 2001 to December 2003.

-Professor, Department of Microbiology, Icahn School of Medicine at Mount Sinai, New York, USA. January 2004 to present.

-Co-Director, Global Health and Emerging Pathogens Institute, Mount Sinai School of Medicine, New York, USA. January 2007 to 2010.

-Professor, Department of Medicine, Infectious Diseases Division, Icahn School of Medicine at Mount Sinai, New York, USA. April 2007 to present.

-Director, Global Health and Emerging Pathogens Institute, Icahn School of Medicine at Mount Sinai, New York, USA. July 2010 to present.

4. **AWARDS, FELLOWSHIPS AND GRANTS**

4.1. **AWARDS**

-Research Awardee, Spanish "Royal Academy of Pharmacy", December 1986.

-Master Awardee, University of Salamanca, Spain, 1986.

-Bachelor National Awardee from the Spanish Ministry of Education and Science, 1986.

- Ph.D. Awardee**, University of Salamanca, Spain, 1992.
- Fellow, American Society for Microbiology**, 2005.
- Faculty Council Award for Academic Excellence for Senior Faculty**, Mount Sinai School of Medicine, New York, USA, 2006
- Beijerinck Professorship**, Netherlands Academy of Sciences. 2009
- Fellow, International Society for Vaccines**, 2013
- **Jacobi Medallion**, Icahn School of Medicine at Mount Sinai, New York, USA, 2016.
- On the list of the **Top 20 translational researchers of 2015**, Hugget and Paisner, Nature Biotechnology, 34:1009 (2016)
- On the list of **2016 Highly Cited Researchers**, Thompson Reuters
- Elected to the **Royal National Academy of Pharmacy of Spain**, 2017.

4.2. PAST FELLOWSHIPS AND GRANTS

- Research Fellowship** from the Spanish Ministry of Education and Science. January 1987 to December 1990.
- Research Fellowship** from the French Foreign Office, November 1987 - December 1987.
- Research Fellowship** from the French Foreign Office, April 1989.
- Study Fellowship** from the University Menéndez Pelayo, Santander, Spain, September 1987.
- Ph.D. Fellowship** from the "Caja de Ahorros Municipal de Burgos", February 1991.
- Research Fellowship** from NATO, December 1991 to March 1993.
- Research Fellowship** from the Spanish Ministry of Education and Science (**Fulbright**). April 1993 to December 1994.
- Grant-in-aid** from the Stony Wold-Herbert Fund, Inc., New York, July 1995 to June 1997. Project: "Expression of foreign antigens by influenza virus vectors".

-PI of R29 research grant from NCI/NIH, (1R29CA77432-01), April 1998 to March 2003. Project: “Transfectant influenza viruses in cancer therapy”

-PI of AMFAR research grant (02621-26-RGV), May 1999 to April 2000. Project: “Novel vaccines based on Newcastle disease virus vectors”

-PI of subproject of the P01 research grant from NIAID/NIH (1P01AI 48204-01), July 2000 to June 2004. PI: Peter Palese. Project: “Immunogenicity of recombinant human influenza A and B viruses”

-Collaborator of the UC1 challenge grant from NIAID/NIH (1UC1AI49519), October 2000 to September 2003, PI: Dennis Trent. Project: “DNA based generation of avian influenza virus vaccines”

-CoPI of R21 research grant from NIAID/NIH (R21AI51170), July 2002 to June 2004. PI: Matthias Schnell. Project: “Prime/boost immunization against HIV-1 by viral vectors”

-PI of subproject of the P01 research grant from NIAID/NIH (P01AI52106), August 2002 to May 31, 2007. PI: Peter Palese. Project: “Inhibition of host antiviral responses by human respiratory syncytial virus”

-Collaborator of R01 research grant from NCI/NIH (R01CA100830), May 2003 to April 2010. PI: Savio Woo. Project: “Oncolytic VSV for hepatocellular carcinoma”

-PI of subproject of the U54 research grant from NIAID/NIH (U54AI057158), September 2003 to February 2009. PIs: Ian Lipkin and Lawrence Sturman. Project: “Role of dengue virus non-structural proteins in inhibiting innate immunity”

-Collaborator of research grant from DOD (W23RYX-3270-N795), January 2004 to December 2006. PI: Hall. Project: “Construction of a vesicular stomatitis virus expressing both a fusogenic glycoprotein and IL-12: A novel vector for prostate cancer therapy”

-PI of research grant from DOD (W81XWH-04-1-0876), September 2004 to September 2008. Project: “Diversity, replication, pathogenicity and cell biology of Crimean Congo hemorrhagic fever virus”

-Collaborator of contract from NIAID/NIH (HHSN266200400041C), September 2004 to July 2009. PI: Richard Scheuermann. Project: “BioHealthBase Bioinformatics Resource Centers for Biodefense and Emerging/Re-emerging Infectious Diseases” VIRUS-D-10-00169

-Collaborator of contract from NIAID/NIH (HHSN266200500028C), September 2004 to July 2009. PI: Thomas Moran. Project: “Immune Function and Biodefense in Children, Elderly, and Immunocompromised Populations”

-PI of subproject of the U19 research grant from NIAID/NIH (U19AI62623), September 2004 to September 2009. PI: Thomas Moran. Project: “Induction of immunity by influenza virus”

-PI of new opportunities project of the U54 research grant from NIAID/NIH (U54AI057158, PIs: Ian Lipkin and Lawrence Sturman.), March 2005 to February 2007.
Project: “ Development of human MoAbs for neutralization of “Spanish” flu”

-Collaborator of contract from NIAID/NIH (HHSN266200500021C), September 2005 to September 2010. PI: Stuart Sealfon. Project: “Modeling Immunity for Biodefense”

-Subcontract of research grant from USDA (2006-35204-17437), September 1, 2006 to August 31, 2009. PI: Daniel Perez. Project: “Modified live vaccines against highly pathogenic avian influenza”.

-Collaborator of grant from the Bill and Melinda Gates Foundation (Vaccine Discovery Consortium), September 1, 2006 to August 31, 2009. PI: David Ho. Project: “Harnessing dendritic cells and innate immune activation signals to guide HIV-1 vaccine development”.

-Collaborator of research grant from DOD (W81XWH-07-2-0028), January 2007 to January 2009. PI: Connie Schmaljohn. Project: “Interferon Antagonism as a Common Virulence Factor of Hemorrhagic Fever Viruses”.

U01AI082970 **Moran (PI)** **08/01/09-7/31/11**
NIH/NIAID **García-Sastre (Co-PI)**

Inflammatory Response in Influenza Virus Infection

In this application we will take advantage of recently generated type I and type III knockout mice (dKO) to analyze the interferon independent immune pathway and by extension the importance of interferon signaling to anti-viral immunity. Moreover, using influenza virus lacking the immune antagonist protein, NS1, to infect dKO mice, we will measure the impact of NS1 on interferon independent immunity.

R01AI046954 **García-Sastre (PI)** **07/01/00-03/31/11**
NIH/NIAID

Virulence factors of influenza virus: The NS1 protein

The main goal of this project is to study the mechanism of inhibition of host responses by the NS1 proteins of influenza A and B viruses

P01AI058113 **García-Sastre (PI)** **07/01/04-08/31/11**
NIH/NIAID

Molecular and Biological Characterization of Pandemic Flu

The main goal of this program project is to understand the signatures of virulence of pandemic human influenza viruses using genetics, structural, molecular biology, pathology, animal models

and genomics tools.

U01AI070469 **García-Sastre (PI)** **08/01/06-07/31/11**
NIH/NIAID

Live attenuated vaccines for epidemic and pandemic flu

This grant is in response to a specific program announcement (RFA-AI-05-019, Cooperative Research Partnerships for Biodefense) and it is dedicated to investigate a novel concept for the design of improved influenza virus vaccines based on modification of the viral NS1 gene to generate live attenuated vaccine strains.

1P01AI082325 **Schnell (PI)** **07/01/09-06/30/11**
NIH/NIAID **García-Sastre (PI of subproject)**

Functional analysis of NSV-based HIV vectors

This subproject of a program project grant examines the induction of HIV-specific immune responses by Newcastle disease virus vectors when used in combination with rabies and vesicular stomatitis vectors.

U01AI074539 **Palese (PI)** **05/01/07-04/30/12**
NIH/NIAID **García-Sastre (Co-PI)**

Novel cellular and viral targets for anti-influenza virus drugs

This grant aimed to identify influenza virus specific antiviral compounds that target both viral and host requirements for influenza virus growth.

Annual award to García-Sastre: \$184,817

062009 **García-Sastre (PI)** **01/01/07-12/31/12**

W.M. Keck Foundation

Development of animal models of transmission of influenza virus under biocontainment

This grant is under no-cost extension, and its main focus is to develop guinea pigs and ferret models of highly pathogenic influenza virus infection using enhanced BSL3 containment

Annual award: \$50,000

R01AI079110 **Roth (PI)** **06/15/10-05/31/13**
NIH/NIAID **García-Sastre (Co-I)**

Using chemical biology to interfere with the influenza virus life cycle

Under this proposal and in collaboration with the PI, we will investigate the antiviral activity in vivo of several compounds previously identified to inhibit influenza virus NS1 function in a high throughput assay.

Annual award subcontract: \$75,000

U54AI057158 **Lipkin (PI)** **03/01/09-02/28/14**
NIH/NIAID **García-Sastre (PI of subproject)**

Inhibition of innate immunity by hemorrhagic fever arboviruses

This subproject is a research component of the “Northeast Biodefense Center” responding to a

specific program announcement (RCE for biodefense and emerging infectious diseases research). The goal of this subproject is to investigate the molecular mechanisms used by Dengue and Crimean-Congo hemorrhagic fever (CCFV) viruses to inhibit the host antiviral response, to evaluate the impact of these inhibitory mechanisms on viral pathogenesis and to establish assays for the screening of small compounds that inhibit the Dengue and CCHFV antagonism of innate immunity.

Annual award subcontract: \$200,000

HHSN266200700010C **García-Sastre (PI)** **03/30/07-03/29/14**
NIH/NIAID

CRIP (Center for Research on Influenza Pathogenesis)

This NIAID Center of Excellence for Influenza Research and Surveillance is dedicated to determine factors affecting the pathogenicity and innate immune responses of animal influenza viruses.

Annual award: \$8,000,000

U19AI083025 **Jung (PI)** **07/01/09-06/30/14**
NIH/NIAID **García-Sastre (Co-PI)**

TRIM-25 mediated host antiviral responses during influenza virus infections

This subproject is a research component of the “Host-pathogen competition in IFN mediated antiviral defense” U19. The goal of this subproject is to detail the specific mechanism how the NS1 protein of influenza A virus prevents the recognition of viral RNA by cellular cytoplasmic sensors of RNA virus infection, and the consequences of this evasion mechanism in virus replication and pathogenesis.

Annual award subcontract: \$250,000

HHSN272200900032C **Palese (PI)** **09/30/09-09/29/14**
NIH/NIAID **García-Sastre (Co-I)**

Interferon-inducing compounds for use as broad antivirals/adjuvants.

This contract use a high throughput screening to identify compounds with that ability to stimulate interferon and explore the abilities of these compounds to stimulate innate and adaptive immunity.

Annual award to García-Sastre: \$120,000

P01AI090935 **Young (PI)** **08/15/10 -07/31/15**
NIH/NIAID **García-Sastre (PI of subproject)**

Innate immunity and HIV restriction.

This subproject in part of a multi-investigator program project entitled “Global innate immune responses to HIV-1 infection” to study the interactions between HIV and innate immunity. The subproject studies the functional relationships between HIV restriction factors and innate immune pathways.

Annual award subcontract: \$250,000

R01AI089539 **Roth (PI)** **07/01/10-06/30/15**
NIH/NIAID **García-Sastre (Co-I)**

Novel inhibitors of viral replication

In this project, novel inhibitors of influenza virus replication will be identified by our collaborators and we will investigate their antiviral activities in a mouse model.

Annual award subcontract: \$75,000

U19AI089987 **Banchereau (PI)** **07/12/10-07/12/15**
NIH/NIAID **García-Sastre (Co-I)**

Systems analysis vaccine responses in healthy and hyporesponsive humans

Under this multicomponent grant, the García-Sastre lab provides measurements of influenza virus replication and vaccine responses in humans and monkeys

Annual award to García-Sastre: \$100,000

97.061 **Richt (PI)** **07/01/10-06/30/16**
DHS **García-Sastre (Co-I of subproject)**

Center of Excellence for Emerging & Zoonotic Animal Disease (CEEZAD)

Under this grant, the García-Sastre lab will generate NDV vectors expressing HA antigens as possible vaccines against avian and swine influenza for birds and pigs.

Annual award subcontract: \$60,000

U01AI095611 **Merad (PI)** **07/01/11-06/30/16**
NIH/NIAID **García-Sastre (Co-I)**

Role of Mucosal DC Subsets in Control of Influenza A

This grant analyzes the role of different dendritic cells in induction of immune responses during influenza virus infection.

Annual award to García-Sastre: \$25,000

HHSN272201000054C **Sealfon (PI)** **01/01/11-12/31/15**
NIH/NIAID **García-Sastre (Co-I)**

Program for Research on Immune Modeling and Experimentation

This contract develops a model for dendritic cell activation in response to influenza virus

Annual award to García-Sastre: \$187,710

R21AI112717 **Dewhurst** **7/01/15-6/30/16**
NIH **García-Sastre (Co-I)**

Enhanced live attenuated influenza virus with improved safety and immunogenicity

Under this R21 grant, the García-Sastre lab investigates the vaccine efficacy in mice of recombinant attenuated influenza viruses lacking essential viral genes.

Annual award subcontract (direct costs): \$19,654

R01DA033773 **Wolinsky (PI)** **04/15/12-03/31/17**
NIH/NIDA **García-Sastre (Co-I)**

A systems-level approach to studying HIV/AIDS susceptibility and substance abuse

This proposal is focused on building the biological pathways and protein interaction networks that

provide avenues to explore for new, host-directed, therapeutic interventions.
Annual award: \$4,822,003

HHSN272201300023C **Gale (PI)** **09/30/13-09/29/18**

NIH/NIAID **García-Sastre (Co-I)**

Development of KIN-1148 as a novel innate immune adjuvant system for emerging RNA virus vaccines.

This contract involves studying adjuvant activity of the compound KIN-1148 in experimental vaccines that protect against highly pathogenic influenza A virus, West Nile virus, and additional emerging pathogens, including dengue virus and Japanese encephalitis virus.

Annual award to García-Sastre: \$136,388

HHSN272201400008C **García-Sastre (PI)** **04/01/14-03/31/21**

NIH/NIAID

CRIP (Center for Research on Influenza Pathogenesis) (RENEWAL)

This NIAID Center of Excellence for Influenza Research and Surveillance is dedicated to determine factors affecting the pathogenicity and innate immune responses of animal influenza viruses.

Annual award: \$8,000,000

U19AI117873 **Sealfon (PI)** **05/08/15-04/30/20**

NIH/NIAID **García-Sastre (PI of Subproject)**

Immunity to Influenza in Primary Lung Epithelial Cells

This project of a U19 consortium entitled “Modeling Early Immunity to Human Influenza Infection” develops a mathematical model of the dynamics of the host innate immune response induced by influenza A virus in human respiratory epithelial cells.

Annual award to García-Sastre: \$159,775

U19AI118610 **Fernandez-Sesma (PI)** **06/24/15-05/31/20**

NIH/NIAID **García-Sastre (coPI)**

Dengue Human Immunology Project Consortium (DHIPC)

This U19 consortium focuses on investigating the response in blood to dengue virus vaccines and to natural dengue virus infections.

Annual award to García-Sastre: \$106,616

N/A **Palese (PI)** **01/01/14-12/31/17**

GlaxoSmithKline **García-Sastre (Co-I)**

Development of a supra seasonal influenza virus vaccine

The long term objective of this proposal is to develop a universal influenza virus vaccine that provides long-lasting protection against seasonal and pandemic influenza virus infections without the need of annual re-vaccination for infants, children and adults.

Annual award to García-Sastre: \$570,000

R01GM109018 NIH/NIAID	Shapira (PI) García-Sastre (Co-I)	02/01/14-12/31/18
Quantitative analysis of influenza evolution This grant aims to understand the principles that govern the evolution of influenza viruses on a population and mechanistic level, compute the fitness landscape of individual viral sequences, and map the evolutionary pressures exerted on the virus. Annual award to García-Sastre: \$20,000		
N/A Gates Foundation	Krammer (PI) García-Sastre (Co-I)	11/05/14-12/31/18
Evaluation of safety and immunogenicity of chimeric HA expressing live-attenuated and inactivated universal influenza virus vaccines in phase I clinical trials The long term objective of this proposal is to develop a universal influenza virus vaccine that provides long-lasting protection against seasonal and pandemic influenza virus infections without the need of annual re-vaccination for infants, children and adults. Annual award to García-Sastre: \$135,410		
N/A Merck	Palese (PI) García-Sastre (Co-I)	01/01/15-12/31/17
Preclinical R&D for evaluation of the armed New Castle Disease Viruses (NDV) for anti-tumor efficacy in combination with immunomodulatory antibodies The goal of this project is the identification of innate immune mechanisms playing a role in NDV-mediated immune activation. Annual award to García-Sastre: \$150,000		
U01AI124297 NIH/NIAID	Banchereau (PI) García-Sastre (Co-I)	04/15/16-03/31/21
Molecular mechanisms of adjuvants Antibodies against influenza virus vaccine induced in the main grant studies will be characterized by the García-Sastre lab for specificity and protective abilities against influenza virus. Annual award to García-Sastre: \$37,196		
R01AI125524 NIH/NIAID	Lynch (PI) García-Sastre (Co-I)	05/25/16-04/30/21
Splicing and nuclear transport of influenza virus mRNA These studies aim to uncover novel mechanisms of, and connections between, alternative splicing and nuclear transport and how these processes are subverted by the influenza virus. The studies also aim to reveal host vulnerabilities targeted by influenza virus that can potentially be used to devise new therapeutic options. Annual award to García-Sastre: \$80,000		
R01AI127658	Blander (PI)	09/23/16-08/31/21

NIH/NIAID

García-Sastre (Co-I)

Novel vita-vaccine formula combines safety of dead and efficacy of live vaccines

The goal of this study is the use of bacterial mRNAs as superior vita-adjuvants that restore the signatures of microbial viability to dead vaccines and improve existing inactivated and subunit vaccines for protection against either bacterial or viral diseases.

Annual award to García-Sastre: \$2,369

R21AI129486

García-Sastre (PI)

08/01/17-07/31/19

NIH/NIAID

Interferon signaling inhibition by the Zika virus NS5 protein

This project investigates the ability of the NS5 of Zika virus to inhibit type I IFN signaling by targeting STAT2 to degradation.

Annual direct costs: \$150,000

R33AI119304

García-Sastre (PI)

07/01/17-07/31/20

NIH/NIAID

Chemical intervention of influenza virus RNA nuclear export

This R33 grant is a continuation of a previous R21 project and investigates small molecules able to specifically inhibit influenza virus mRNA export as potential antivirals for the treatment of influenza.

Annual award: \$500,063

17-0975

Richt (PI)

01/01/17-3/31/18

KS Dept of Commerce

García-Sastre (Co-I)

Efficacy of NDV-vectored HPAI H5 vaccine in chickens via water/mass application immunization
Under this project, the García-Sastre lab will generate NDV vaccine vectors expressing influenza virus H5 proteins to be tested as vaccine in poultry.

Annual award to García-Sastre: \$5,000

5.- BIBLIOGRAPHY

5.1. PAPERS

1. E. Villar, A. García & J. A. Cabezas. Purificación y caracterización de la sialidasa de un paramixovirus. *Anales de la Real Academia de Farmacia*, 53, 479-491 (1987).
2. A. García-Sastre, J. A. Cabezas & E. Villar. Proteins of Newcastle disease virus envelope: interaction between the outer hemagglutinin-neuraminidase glycoprotein and the inner non-glycosylated matrix protein. *Biochim. Biophys. Acta*, 999, 171-175 (1989).
3. B. Fizon, C. Hannoun, A. García-Sastre, E. Villar & J. A. Cabezas. Comparison of biological and physical properties of human and animal A(H1N1) influenza viruses. *Research in Virology*, 140, 395-404 (1989).
4. A. García-Sastre, J. Corral, J.A. Cabezas & E. Villar. Protein-protein interactions in membranes: A simple practical laboratory class for advanced students of Biochemistry and Molecular Biology. *Biochemical Education*, 18, 197-200 (1990).
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11. G. Luo, M. Bergmann., A. García-Sastre & P. Palese. Mechanism of attenuation of a chimeric influenza A/B transfectant virus. *J. Virol.*, 66, 4679-4685 (1992).
12. I. J. Garcia-Pascual, E. Villar, J. J. Corrales, A. García-Sastre, L. C. Garcia-Díez, J. Corral, J.A. Cabezas & J. M. Miralles. Enzymatic glycosidase activities in experimental obesity. *Hormone and Metabolic Research*, 24, 412-415 (1992).
13. I. Muñoz-Barroso, A. García-Sastre, E. Villar, J.-C. Manuguerra, C. Hannoun & J. A. Cabezas. Increased influenza A virus sialidase activity with N-acetyl-9-O-acetylneuraminic acid-containing substrates resulting from influenza C virus O-acetyl-esterase action. *Virus Res.*, 25, 145-153 (1992).
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15. M. Bergmann, A. García-Sastre & P. Palese. Transfection-mediated recombination of influenza A virus. *J. Virol.*, 66, 7576-7580 (1992).
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491. A. Silvin, C. I Yu, X. Lahaye, F. Imperatore, S. Cardinaud, C. Becker, J.-B. Brault, W.-H. Kwan, C. Conrad, M. Maurin, C. Goudot, S. Marques-Ladeira, Y. Wang, V. Pascual, E. Anguiano, R. A. Albrecht, M. Iannacone, A. García-Sastre, B. Goud, M. Dalod, A. Moris, M. Merad, A. K. Palucka & N. Manel. Constitutive resistance to viral entry in cross-presenting CD141+ dendritic cells. *Sci. Immunol.*, in press.
492. R. Nachbagauer, W.-C. Liu¹, A. Choi, T. J. Wohlbold, T. Atlas, M. Rajendran, A. Solórzano, F. Berlanda-Scorza, A. García-Sastre, P. Palese, R. A. Albrecht & F. Krammer. A universal influenza virus vaccine candidate confers protection against pandemic H1N1 infection in preclinical ferret studies. *NPJ Vaccines*, in press.
493. F. Krammer, A. García-Sastre & P. Palese. Is it possible to develop a “universal” influenza virus vaccine? *Cold Spring Harb. Perspect. Biol.*, doi: 10.1101/cshperspect.a028845 (2017).
494. A. García-Sastre. Ten strategies of interferon evasion by viruses. *Cell Host & Microbe*, in press.

5.2. EDITOR

- 1.- P. PALESE & A. GARCÍA-SASTRE, eds. “The future of vaccine design.” Perspective series of The Journal of Clinical Investigation, 2002.
- 2.- A. R. BRASIER, A. GARCÍA-SASTRE & S. M. LEMON, eds. “Cellular Signaling and Innate Immune Responses to RNA Virus Infections”. ASM Press, Washington DC, 2008.
- 3.- A. GARCÍA-SASTRE & P. J. SANSONETTI, eds. “Host pathogens”. Current Opinion in Immunology, Vol 22, Issue 4, August 2010.
- 4.- A. GARCÍA-SASTRE & F. CHISARI, eds. Current Opinion in Virology, Section: Viral Pathogenesis. June 2011.
- 5.- A. GARCÍA-SASTRE & D. PEREZ, eds. “H5N1”. Virus Research special issue, Vol 178, 2013.
- 6.- I. MARAZZI & A. GARCÍA-SASTRE, eds. Current Opinion in Microbiology, Section: Host-microbe interactions: viruses. August 2015.

6.- **MEMBERSHIPS AND COMMITTEES:**

- 1.- Member of the American Society for Microbiology since 1993.
- 2.- Member of the International Society for Vaccines since 1995.
- 3.- Member of the Spanish Society of Biochemistry and Molecular Biology since 1996.
- 4.- Full member of the Spanish Society of Virology since 1996.
- 5.- Full member of the American Society for Virology since 1996.
- 6.- Member of the AIDS and Related Research Study Section, NIH, July 1999 to February 2005.
- 7.- Ad hoc reviewer of the Experimental Virology Study Section, NIH, February 2002.
- 8.- Member of the Editorial Board of Virus Research since September 2001.
- 9.- Member of the Editorial Board of Journal of Virology since January 2002.
- 10.- Member of the Editorial Board of Virology since January 2002.
- 11.- Member of the New York Academy of Sciences since January 2002.
- 12.- Member of the American Association for the Advancement of Science, since 2003.
- 13.- Member of the International Society for Interferon and Cytokine Research, since 2004.
- 14.- Member of the Innovative Research Topics in Virology Study Section, NIH, 2003, 2004.
- 15.- Member of the Editorial Board of Journal of General Virology 2004-2010.
- 16.- Scientific Consultant, US Civilian Research & Development Foundation (CRDF), February 2005.
- 17.- Fellow, American Society for Microbiology, 2005.
- 18.- Member of the Viral and Eukaryotic Pathogens Study Section, NIH, 2005
- 19.- Member of the Disease, Disability , and Injury Prevention and Control Study Section, CDC, 2005.

- 20.- Collaborator, U.S. Civilian Research and Development Foundation, KZ-27 Project, Epizootological Monitoring and Biological Characterization of the Avian Influenza Virus, Otar, Kazakhstan, 2005-2014.
- 21.- Member of the External Scientific advisory Board for the Microscale Immune Studies Laboratory (MISL) Grand Challenge. Sandia National Laboratories, Livermore, California. 2005–2008.
- 22.- Consultant. Avian Influenza Research Strategy Meeting/Workshop, Canadian National Centre for Foreign Animal Disease. Canadian Food Inspection Agency, Winnipeg, Canada. 2006.
- 23.- Member of the Editorial Board of PLoS Pathogens since 2006.
- 24.- Member of the Virology B Study Section, NIH, 2006-2010.
- 25.- Member of the Editorial Board of Influenza and other respiratory diseases since 2007.
- 26.- Editor, Journal of Experimental Medicine since 2007.
- 27.- Member of the William A. Hinton Research Training Award Selection Committee of the American Society for Microbiology. 2008-2011.
- 28.- Member of the External scientific Advisory Board of the USDA program Avian Influenza Coordinated Agricultural Project (AICAP). 2008-present.
- 29.- Reviewer for the European Union 7th Programme for Research, 2009.
- 30.- Secretary of the International Society for Vaccines. 2009-2011.
- 31.- Invited Participant in the Workshop “Next Generation Biothreat Definition and Detection” conducted by the Sandia National Laboratories for the Department of Homeland Security, Livermore, California, 2009.
- 32.- Member of the Scientific Working Group of the Genomic Sequencing Centers for Infectious Diseases, NIAID, 2010-2014.
- 33.- Member of the Faculty of 1000, 2010-present.
- 34.- Member of the Keystone Symposia Scientific Advisory Board, 2011-present.
- 35.- Editor, Virus research, since 2011.
- 36.- President-elect, International Society for Vaccines, 2011-2013.

- 37.- External scientific advisor of Virored, a virus surveillance project from the Latinoamerican Program of Science and Technology (CYTED), 2011-2012.
- 38.- Reviewer of the Study Section for the Broad Agency Announcement on Development of Therapeutic Products for Biodefense, 2011.
- 39.- Reviewer of the Study section VA Infectious Diseases A , 2011, 2013, 2014, 2015
- 40.- Chair of the RNA virus Division of the American Society for Microbiology, 2010
- 41.- Consultant, Medical Countermeasures Initiative (MCMI) Advanced Development & Manufacturing (ADM), Department of Defense, 2011
- 42.- External scientific advisor for influenza vaccines for Fondazione Cariplo, Italy, 2011 - 2015
- 43.- Scientific Advisor for the Department of Defense Pathogen Reference Laboratory in Tbilisi, Georgia, 2011.
- 44.- Member of the Scientific Advisory Board of the Virology Roche R&D Program, 2011
- 45.- Member of the Scientific Advisory Board of the Keystone meetings, 2012-present.
- 46.- Member of the evaluation panel (Board of Scientific Counselors) for the Infectious Diseases and Microbiology Review Group of the National Institutes of Health, 2013.
- 47.- President, International Society for Vaccines, 2014-2015.
- 48.- Member of the Scientific Advisory Board for Influenza Vaccines, Merck, 2014
- 49.- Member of the Scientific Advisory Board of Medivector, 2014 – present
- 50.- Member of the Scientific Advisory Board of the NIAID Genome Centers for Infectious Diseases, 2014 - present.
- 51.- Member of the Scientific Advisory Board of the K.G. Jebsen Centre for influenza vaccine research, Norway 2014 – present.
- 52.- Member of the Infectious Diseases Advisory Board, Roche, 2014.
- 53.- Reviewer NIH/NIAID Vaccines Against Microbial Diseases Study Section, 2014
- 54.- Member of the Scientific Advisory Board of the Oklahoma Center for Respiratory and Infectious Diseases, 2014 – present.

- 55.- Member of the Scientific Working Group for IRD/ViPR, two large virus databases funded by NIAID, 2015-present
- 56.- Ad-hoc Member of the Board of Scientific Counselors for NIAID, 2015, 2016
- 57.- Reviewer for the Pakistan-U.S. Science & Technology Cooperation Program, 2013, 2015.
- 58.- Reviewer of P01 application to NIAID, 2015
- 60.- Reviewer for Innovative Ebola Research Grants from the Canadian Institutes of Health Research (CIHR), 2015.
61. Reviewer for Department of Defense (DoD) Peer Reviewed Medical Research Program, 2016
- 62.- Reviewer NIH/NAID Immunology Fellowship Study Section, 2016, 2017.
- 63.- Reviewer NIH/NAID Microbiology Fellowship Study Section, 2016.
- 64.- Member of the CHDI Viral Gene Therapy Advisory Committee, 2016.
- 65.- Reviewer for the Project Grants Competition for the Canadian Health Research Institute, 2017
- 66.- CIHR College Member (reviewer for the Canadian Institutes of Health Research), 2017
- 67.- Member of the Editorial Board of Current Topics in Microbiology and Immunology, 2017

8.- INVITED LECTURES AT MEETINGS AND OTHER INSTITUTIONS

A. *Meetings*

1. Vaccines: New Technologies & Applications. Alexandria, VA, USA. March 1994: Preclinical results with a live recombinant vaccine strategy against malaria.
2. Keystone Symposium on Mucosal Immunity. Keystone, CO, USA. January 1995: Genetic engineering of influenza virus for use in vaccination.
3. 14th Japanese Annual Meeting on Influenza. Japanese Alps, Japan. February 1999: Genetically engineered influenza virus vaccines.
4. VI National Congress of Virology. Majadahonda, Spain. October 1999: Attenuation of influenza viruses by reverse genetics techniques.
5. Options for the Control of Influenza IV, Hersonissos, Crete, Greece. September 2000: NS1-mediated inhibition of the type I interferon system during influenza A virus infection.
6. International Symposium on Emergence and Control of Zoonotic and Paramyxovirus Diseases. Veyrier-du-Lac, France. December 2000: Molecular approaches for influenza virus attenuation and vaccine development.
7. FEBS Practical & Lecture Course AViral Vectors@. German Cancer Research Center (DKFZ), Heidelberg. September 2001: Influenza A viruses as vaccine vectors.
8. Vaccine Immunology Centers Meeting. National Institutes of Health, Bethesda, MD, USA. September 2002: Type I interferon antagonist function of the NS1 protein of influenza virus.
9. Workshop on Engineering RNA Virus Genomes as Biosafe Vectors. Instituto Juan March de Estudios e Investigaciones, Madrid (Spain). October 2002: Plasmid-based reverse genetics for influenza virus.
10. 103rd General Meeting of the American Society for Microbiology. Washington Convention Center, Washington, D.C. May 2003: Antitumor properties of influenza virus vectors.
11. Keystone Symposia on Bioterrorism and Emerging Infectious Diseases: Antimicrobials, Therapeutics and Immune-Modulators. Keystone Resort, Keystone, Colorado, January 2004: Type I interferon antagonists of RNA viruses: Novel targets for attenuation in live virus vaccines.
12. 10th National Symposium Basic Aspects of Vaccines. Uniformed Services University of the Health Sciences, Bethesda, MD. April 2004: Archeobiology of influenza viruses.

13. Student Pugwash NY Regional Conference: Addressing the Global Burden of Infectious Disease. Rockefeller University, New York, NY. May 2004: Influenza.
14. NITD Symposium on Dengue Fever and Tuberculosis. Novartis Institute for Tropical Diseases. Singapore. July 2004: IFN antagonism by dengue virus.
15. 8th Avian Immunology Research Group Meeting. Munich, Germany. September 2004: Attenuation of innate and adaptive immune responses by influenza and Newcastle disease viruses.
16. NIH Recombinant DNA Advisory Committee Meeting: Safety Considerations in Recombinant DNA Research with Pathogenic Viruses. Bethesda, Maryland. September 2004: Characterization of the 1918 influenza virus.
17. Human Immunology and Biodefense Workshop. Baylor Institute for Immunology Research, Dallas, Texas, USA. November 2004: Influenza virus.
18. The Third International Meeting on Replicating Oncolytic Virus Therapeutics. Banff, Alberta, Canada. March 2005: Type I IFN antagonist proteins encoded by influenza and Newcastle disease virus.
19. Experimental Biology 2005 and XXXV International Congress of Physiological Sciences. San Diego, California. April 2005: The influenza virus with emphasis on the 1918 virus.
20. Conference on Synthetic Biology, Synthetic Virology, and Concerns about the Creation of BW Pathogenes (BW Hacking). The MITRE Corporation, Bedford, Maryland. June 2005: Plasmid-derived influenza viruses: identification of virulence markers and applications to vaccines.
21. Second European Influenza Conference. Malta. September 2005: Keynote lecture.
22. Pathogenesis and Early Events in Viral Infections. The Banbury Center, Cold Spring Harbor Laboratory. September 2005: Spanish influenza.
23. 2006 Cooperative Biological Research (CBR) Program Review. Crystal City, Virginia. January 2006: Lessons Learned from the Reconstruction of the 1918 Virus.
24. Seasonal and Pandemic Influenza 2006: At the crossroads... A global opportunity. Washington DC. February 2006: Lessons Learned from the Reconstruction of the 1918 Virus.
25. 2006 ASM Biodefense Research Meeting. Washington DC. February 2006: Identification and Characterization of Viral Antagonists of Type I Interferon.
26. 3rd MIDITrain Minisymposium. Influenza Virus. An afternoon on flu. Braunschweig, Germany. March 2006: Reconstruction and characterization of the 1918 pandemic influenza virus.

27. NIAID RCE 3rd Annual Meeting. New York, NY. March 2006. Lessons learned from the reconstruction of the 1918 influenza virus.
28. Keystone Symposia: Advances in Influenza Research: From Birds to Bench to Bedside. Steamboat, Colorado. March 2006. How influenza virus counteracts the type I interferon response.
29. Pandemic Influenza: 1918 Lessons Learned. McLean, Virginia. April 2006. Comparisons between the influenza virus of 1918 (A/H1N1) and A/H5N1.
30. 19th International Conference on Antiviral Research. San Juan, Puerto Rico. May 2006. Archeobiology of the pandemic influenza virus of 1918.
31. 106th General Meeting of the American Society for Microbiology. Orlando Convention Center, Orlando, Florida. May 2006. Division T lecture: Evasion of the type I interferon response by influenza viruses.
32. American Society for Gene Therapy 9th Annual Meeting. Baltimore Convention Center, Baltimore, Maryland. June 2006. Genetic engineering of influenza viruses.
33. II FEMS Congress of European Microbiologists. Madrid, Spain. July 2006. Genetically engineered influenza viruses.
34. 25th Annual Meeting of the American Society of Virology. University of Wisconsin, Madison, Wisconsin. July 2006. The Bill Joklik Lecture: Viral interference with interferon: Lessons from RNA viruses.
35. The 6th Awaji International Forum on Infection and Immunity. Awaji Island, Japan. September 2006. Inhibition of the type I IFN response by RNA viruses.
36. IX International Seminar of Journalism and Environment. Córdoba, Spain. September 2006. Influenza.
37. 41st ASM Region 1 Annual Meeting. Albany, New York. November 2006. New insights in influenza virus: pathogenesis, transmission and vaccines.
38. VI Virology Meeting, Virology Section of the Catalonian Society of Biology. Barcelona, Spain. November 2006. Reconstruction and characterization of the 1918 pandemic influenza virus.
39. Stratton Lecture on Critical Issues Sponsored by the MIT Women's League. Cambridge, Massachusetts. The Dangerous Leap: Animal-to-Human Transmission of Disease. November 2006. Insights on influenza pandemics learned from the influenza virus strain that caused the 1918 pandemic.

40. 6th São Paulo Research Conference “Mechanisms of Infection and Vaccines-2006”, São Paulo, Brazil. November 2006. The 1918 pandemic influenza virus.
41. Harvard University Asian Flu and Avian Influenza Workshop. Cambridge, Massachusetts. December 2006. Molecular Basis of Vaccine Development.
42. AAAS Symposium, San Francisco, California. Pandemic Influenza: Understanding the threat and organizing the response. February 2007. The 1918 pandemic influenza virus: origin and virulence.
43. Seasonal & Pandemic Influenza 2007. Arlington, VA. February 2007. Updates on molecular characterization of the 1918 virus.
44. Vaccine-Induced Immunity Symposium. Emory Conference Center, Atlanta, GA. March 2007. New insights in influenza virus: Pathogenesis, transmission and vaccines.
45. Third International Workshop “Interferon and Infection”. Freiburg, Germany. March 2007. Keynote lecture. Type I interferon: antiviral activity and viral antagonism.
46. 4th International Bird Flu Summit. Washington DC. March 2007. Dual avian influenza and Newcastle disease virus vaccines.
47. 1st Max Planck Symposium on Virology. Berlin, Germany. April 2007. RNA viruses and type I interferon: An ongoing war.
48. 94th Annual Meeting of the American Association of Immunologists, Miami, Florida. May 2007. Insights on influenza virus pathogenicity from the pandemic 1918 influenza virus.
49. Options for the Control of Influenza VI, Toronto, Canada. June 2007. New Approaches to Influenza Vaccine Production: Meeting the Challenge, From New Science to New Vaccines.
50. Gordon Research Conferences on Viruses and Cells, Tilton, New Hampshire. June 2007. De-ISGylating and de-ubiquitinating activities of viral OTU-like proteins.
51. Immunology Modeling Symposium, Emerging Science Of Emerging Pathogens: From Atoms To The World, New York, New York. June 2007. Immune Evasion Functions of the NS1 Protein of Influenza Virus
52. American Society of Virology 2007 Veterinary Virology Club Satellite Symposium, Corvallis, Oregon. July 2007. Influenza viruses – properties and host ranges in man and animals
53. 45th Annual Meeting of the Infectious Diseases Society of America, San Diego, California. October 2007. Lessons from 1918.

54. 2007 International Meeting of the Federation of Korean Microbiological Societies, Seoul, Korea. October 2007. Studies on influenza virus pathogenesis.
55. V National Virology Meeting, Queretaro, Mexico. October 2007. Influenza virus: from genes to disease.
56. 5th International Conference on Emerging Zoonoses, Limassol, Cyprus. November 2007. New live attenuated vaccines for human and animal influenza.
57. Workshop on innate anti-viral immunity and virus evasion strategies, Sigüenza, Spain. February 2008. The tumor suppressor gene p53 is a positive regulator of the type I interferon response.
58. Jefferson Vaccine Center Annual Retreat, Philadelphia, Pennsylvania. March 2007. New live attenuated vaccines for human and animal influenza
59. Dutch Annual Virology Symposium, Amsterdam, The Netherlands. March 2007. The Beijerinck Lecture: Influenza virus, from genes to disease.
60. Biodefense and Emerging Infectious Diseases Symposium, Wadsworth Center, Albany, New York. April 2008. Reverse genetics of influenza virus.
61. Immunobiology and Pathogenesis of Influenza Infection, Atlanta, Georgia. June 2008. Inhibition of the type I interferon pathway by the NS1 protein of influenza virus.
62. 8th Annual Meeting of the Federation of Clinical Immunology Societies, Boston, Massachusetts. June 2008. Live attenuated influenza virus vaccines based on modifications of the viral IFN antagonistic gene NS1
63. FluResearchNet General Meeting, Max-Planck-Institute for Molecular Biomedicine, Munster, Germany. June 2008. The 1918 pandemic influenza virus: origins and virulence.
64. 2008 Biotechnology Industry Organization International Convention, San Diego, California. June 2008, Influenza Research and Surveillance: Preparing for the Next Pandemic
65. XIVth International Congress of Virology, Istanbul, August 2008. Co-chair of the Symposium "Orthomyxoviruses II"
66. The Third European Influenza Conference, Villamoura, Portugal, September 2008. Interferon antagonist functions of the NS1 protein of influenza virus.
67. Symposium on human RNA viruses. ICGEB, Trieste, Italy, September 2008. Influenza virus: from genes to disease.

68. Cytokines 2008 Conference. Montreal, October 2008. Modulation of Influenza Virus Replication and Virulence by Viral-host Protein Interactions.
69. Canadian Pandemic Preparedness Meeting: From Discovery to Frontline. Winnipeg, Canada, November 2008. Virulence and transmission of the 1918 influenza virus
70. Symposium on Emerging Infections: A Tribute to the One Health, One Medicine Concept, Manhattan, Kansas. November 2008. Inhibition of type I interferon responses by RNA viruses.
71. 3rd Annual CAVD Meeting. Seattle, Washington. December 2008. Optimization of HIV Gag expression by Newcastle disease virus vectors for the induction of potent immune responses.
72. Workshop on Infectious Disease Imaging, NIAID, San Antonio, Texas. February 2009. Influenza viruses expressing reporter genes.
73. 19th Annual Meeting of the German Society for Virology, Leipzig, Germany. March 2009. Subversion of the type I interferon response by RNA viruses.
74. 21st Annual Buffalo Conference on Microbial Pathogenesis. Buffalo, New York, April 2009. Molecular pathogenesis of influenza virus.
75. 12th Annual Meeting of the American Society for Gene Therapy. Sand Diego, California, May 2009. Subversion of innate immunity by RNA viruses.
76. 109th General Meeting of the American Society for Microbiology. Philadelphia, Pennsylvania. May 2009. Evasion of the IFN antiviral response by influenza virus.
77. International Cell Death Society 2009 Symposium, Johannesburg, South Africa. June 2009. Mechanisms of pathogenesis of influenza virus.
78. Immunobiology of influenza virus infections. Athens, Georgia, July 2009. Applications of influenza viruses expressing reporter genes.
79. 47th Annual Meeting of the Infectious Diseases Society of America. Philadelphia, Pennsylvania. October 2009. Influenza virus 1918-2009: Immune evasion.
80. 3rd Global vaccine Congress. Singapore, October 2009. New approaches for live attenuated influenza virus vaccines based on NS1 modification .
81. Norman P. Salzman Symposium, NIH. Bethesda, Maryland, November 2009. Subversion of the type I interferon response by RNA viruses.

82. North Biodefense Center Fifth Annual Meeting, New York, New York. November 2009. Inhibition of innate immunity by hemorrhagic fever arboviruses.
83. Immune Mechanisms of Virus Control Kick-off Meeting, NIH, Washington DC. December 2009. TRIM mediated host antiviral responses during influenza virus infections.
84. International Influenza Scientific Symposium, Seoul, Korea. January 2010. Virus-host interactions.
84. ICGEB Workshop on Human RNA Viruses 2010, Delhi, India. February 2010. H1N1 pandemic influenza.
85. Infectious Disease Imaging Workshop 2010, New York, New York. February 2010. Pandemic H1N1 viruses.
86. 2010 Keystone Symposia on Cell Biology of Virus Entry, Replication and Pathogenesis, Taos, New Mexico, February 2010. Pathogenesis of influenza virus. 1918-2010-...
87. 2010 Meeting of the Spanish Society of Tropical Medicine and International Health. Salamanca, Spain. March 2010. Virulence of influenza viruses and new therapeutic interventions.
88. Symposium on "Swine origin H1N1: The first pandemic of the 21st Century", Atlanta, Georgia. April 2010. Evasion of innate responses by the new H1N1 virus.
89. 2010 National Research of Excellence Centers Meeting. Las Vegas, Nevada. April 2010. Inhibition of type I IFN signaling by flaviviruses
90. Symposium on Recent Infectious Disease Treatment, Veracruz, Mexico. April 2010. Evasion of immunity by influenza virus.
91. 2010 Symposium of the American Association of Immunologists, Baltimore, Pennsylvania. May 2010. Evasion of immunity by the new pandemic H1N1 influenza virus.
92. Summer School 2010 Molecular Interactions during Infection, Rugen, Germany. May 2010. New pandemic H1N1.
93. First Annual Meeting of the Center of Excellence for Emerging and Zoonotic Animal Diseases, Manhattan, Kansas. June 2010. Influenza virus vaccines and NDV as a vaccine vector.
94. FASEB Summer Research Conference on Virus Assembly, Saxtons River, Vermont. June 2010. Mutant influenza viruses as potential influenza virus vaccines.
95. Avian and swine influenza symposium. Barcelona, Spain. June 2010. Transmission and evasion of the immune response by influenza virus.

96. Swiss Microbiology Annual Meeting 2010. Zurich, Switzerland. June 2010. Pandemic H1N1 influenza.
97. Workshop on Emergent Epidemics: The role of Preventive Medicine. Naples, Italy. July 2010. Influenza A viruses. 1918-2010...
98. 29th Annual Meeting of the American Society for Virology, Bozeman, Montana. July 2010. Pandemic Influenza.
99. 11th Summer School of Molecular Biology, Santander, Spain. July 2010. Molecular biology of influenza virus.
100. Viral Dynamics Workshop, Santa Fe, New Mexico. August 2010. Pandemic H1N1 influenza.
101. VII Symposium of the Options for the Control of Influenza. Hong Kong, China. September 2010. Basic research on influenza for the next decade.
102. 11th International Symposium on Dendritic Cells in Fundamental and Clinical Immunology. Lugano, Switzerland. September 2010. In vivo dynamics of Influenza virus infection.
103. "Junior Faculty" Symposium of the SFB 455. Munich, Germany. October 2010. Induction and inhibition of type I IFN responses by RNA viruses.
104. Minisymposium The Control Of Emerging Infectious Disease. Daejeon, Korea. October 2010. Evasion of interferon responses by two hemorrhagic fever viruses.
105. 2010 Annual Symposium of Korean Association of Virologists. Seoul, Korea. October 2010. Induction and inhibition of IFN responses by influenza virus.
106. 4th Vaccine and International Society for Vaccines (ISV) Global Congress. Vienna, Austria. October 2010. Development of Universal Influenza Virus Vaccines.
107. 35th Brazilian Congress of Immunology. Porto Alegre, Brazil. November 2010. Inhibition of type I interferon responses by RNA viruses.
108. Cell Symposia: Influenza. Scientific organizer and speaker. Washington DC. December 2010. Induction and inhibition of cell innate immunity by influenza virus.
109. 1st American Society for Microbiology Conference on Viral Genome Replication. Banff, Canada. February 2011. Viral RNA and the host antiviral sensing machinery.

110. 2011 Keystone Symposium on Immunity in the Respiratory Tract: Challenges of the Lung Environment. Vancouver, Canada. February 2011. Innate Immune Responses to Influenza Viruses.
111. International Symposium Virus, host and diseases. Kyoto, Japan. March 2011. Inhibition of IFN responses by RNA viruses.
112. 2011 Leiden Biomedical Students Symposium. Leiden, The Netherlands. March 2011. A vaccine that induces protection against all strains of influenza viruses: Reality or Fantasy?
113. New York Biotechnology Association 20th Annual Meeting. New York, NY. April 2011. Influenza virus vaccines.
114. British Society for General Microbiology Spring Conference. Harrogate, UK. May 2011. Induction and inhibition of type I IFN responses by RNA viruses.
115. 2011 Keystone Symposium on Pathogenesis of Influenza: Virus-Host Interactions. Hong Kong, China. May 2011. In vivo dynamics of influenza virus infection.
116. 2011 American Society of Microbiology General Meeting. New Orleans, LS. May 2011. RNA virus Division Lecture: Induction and inhibition of type I IFN responses by RNA viruses.
117. "Systems Biology of Influenza" Symposium. New Haven, CT. June 2011. Antigenicity of H1N1 influenza viruses.
118. DIMACS/MBI US - African BioMathematics Initiative: Workshop on Genetics and Disease Control. Cape Coast, Ghana. August 2011. New pandemic influenza.
119. NIH Workshop on Emergence and Re-Emergence of Arboviral Infections of Global Health Importance. September 2011. Bethesda, MD. Inhibition of type I interferon signaling by the NS5 proteins of mosquito-borne flaviviruses.
120. 11th Annual Symposium in Virology at UNL. September 2011. Lincoln, Nebraska. Induction and evasion of type I IFN responses by RNA viruses.
121. 6th European Meeting on Viral Zoonoses. October 2011. Saint Raphaël, France. Influenza Virus/Host Interactions Leading to Virus Adaptation.
122. Bi-Annual Meeting of the Global Virus Network. October 2011. Dublin, Ireland. Universal flu vaccines.
123. Northeast Biodefense Center Seventh Annual Meeting. November, 2011. New York, NY. The protease of Crimean-Congo hemorrhagic fever virus as a potential antiviral target

124. U.S.-Japan Cooperative Medical Sciences Program (USJCMSP), Acute Respiratory Infections (ARI) panel annual meeting. Wakayama, Japan. November 2011. Antigenicity of the new pandemic H1N1 virus.
125. Glasgow Virology Workshop. Glasgow, UK. February 2012. TRIMming antiviral innate immune responses.
126. 2012 Biology of Acute Respiratory Infection Gordon Research Conference. Ventura Beach, California. March 2012. Induction and evasion of innate immunity by influenza viruses.
127. XIV International Symposium on Respiratory Viral Infections. Istanbul, Turkey. March 2012. New Vaccines for Respiratory Virus Infections.
128. Co-chair of the NIAID/DMID Bioinformatics Meeting on Generating Knowledge from Data for Infectious Diseases. Bethesda, Maryland. April 2012.
129. 3rd ICGB Workshop on Human RNA Viruses. Buenos Aires, Argentina. April 2012. Role of TRIM factors in innate immunity.
130. 3rd ICGB Workshop on Human RNA Viruses. Buenos Aires, Argentina. April 2012. Influenza viruses: from genes to disease.
131. XX Mexican Congress of Immunology. Merida, Mexico. April 2012. New insights into influenza A virus antigenicity
132. CEEZAD 2nd Annual Meeting. Nebraska City, Nebraska. May 2012. Newcastle disease virus vaccine vectors.
133. EMBO conference At the Interface between cell biology and cellular Microbiology. Villars-sur-Olon, Switzerland. May 2012. Inhibition of type I interferon signaling by the NS5 proteins of mosquito-borne flaviviruses.
134. Fondation Mérieux and INSERM Scientific Conference: Freedom in Biological Research. Annecy, France. February 2013. Molecular strategies for risk mitigation of gain of function experiments.
135. XII Spanish National Congress of Virology. Burgos, Spain. June 2013. Influenza virus: From genes to disease.
136. Options for the Control of Influenza VIII. Cape Town, South Africa. September 2013. Dual use research.

137. The XII Pan-American Association for Biochemistry and Molecular Biology (PABMB) Congress. Puerto Varas, Chile. November 2013. NS1, a master regulator of the antiviral host response.
138. 2013 International Summit Meeting on Immunology and Infectious Diseases in Children. Chongqing, China. November 2013. Regulation of the antiviral host response by TRIM proteins.
139. Keystone Symposia 2014 on The Ubiquitin System: From Basic Science to Drug Discovery. Big Sky, MO, USA. January 2014. Regulation of innate immunity by TRIM E3 ligases.
140. Keystone Symposia 2014 Pathogenesis of Respiratory Viruses. Keystone, CO, USA. January 2014. Subversion of Innate Pathways by Influenza Virus.
141. Lorne Infection and Immunity Conference 2014. Lorne, Australia. February 2014. TRIM immunity: Regulators of pathogen restriction and immune responses.
142. International Symposium on Cell response to viral infection: Search for new therapeutic targets. Salamanca, Spain. March 2014. The NS1 protein of influenza virus: a master regulator of host responses.
143. Duke Minisymposium on Pathogenic Human Viruses. Durham, NC, USA. April 2014. H7N9 and other potential zoonotic influenza viruses .
144. 2nd WHO integrated meeting on influenza vaccines. Geneva, Switzerland. May 2014. Universal influenza virus vaccines.
145. Nidovirus 2014 Symposium. Salamanca, Spain. June 2014. Virus induction and regulation of the interferon response.
146. Summer School on Infection Research of the Helmholtz Centre for Infection Research and the German Centre for Infection Research. Dresden, Germany. June 2014. Influenza virus: Host tropism and virulence.
147. Symposium “Virology in the last 4 decades: Breakthroughs and Benefits”. Rotterdam, The Netherlands. July 2014. Discovery of innate immune responses through virus research.
148. The 3rd Frontier Scientists Workshop of the Korean Association for Science and Technology. Los Angeles, CA, USA. July 2014. Influenza virus infection and immunity.
149. UCSF Program in Host-Pathogen Systems and Evolution Symposium. San Francisco, USA. August 2014. Of UBR4 and other related virus stories.
150. Immunofest Munich 2014 Symposium. Munich, Germany. September 2014. Regulation of innate immunity by TRIM proteins

151. ICGEB EMBO workshop on human RNA viruses. Istanbul, Turkey. October 2014. Influenza virus.
152. 1st Symposium on Molecular Aspects of Virology. Mexico City, Mexico. October 2014. Influenza A virus host tropism.
153. International Symposium on “Dynamic Interplay between Virus and Host”. Yokohama, Japan. November 2014. Influenza virus host-interactions.
154. 62nd annual meeting of the Japanese Society for Virology. Yokohama, Japan. November 2014. Induction and regulation of antiviral innate signaling.
155. The Eighth Biennial All-Iowa Virology Symposium. Iowa City, Iowa. March 2015. Influenza epidemics and pandemics.
156. The CHUM-Research Centre Symposia on Research Priorities Toward a Cure in Chronic Viral Infectious Diseases: From Pathogen Sensing to Eradication. Montreal, Canada. April 2015. TRIM proteins: regulators of virus sensing and antiviral immunity.
157. FASEB Science Research Conference “Signal Transduction in the Immune System.” Big Sky, Colorado. June 2015. TRIM Family Proteins in Innate Signaling.
158. 2015 Viruses & Cells Gordon Research Conference. Girona, Spain. June 2015. Role of TRIM proteins in innate immunity.
159. Inaugural Meeting of Specialty Committee of Anti-virus Research with Traditional Chinese Medicine cum 1st Annual symposium, World Federation of Chinese Medicine Societies. Yantai, China. July 2015. Influenza epidemics and pandemics.
160. NIH-sponsored workshop "The Emergence of new Epidemic Viruses: what knowledge have we gained, what questions have we not asked, and what more do we need to do?" Bethesda, Maryland. August 2015. Host virus interactions controlling viral host ranges: Lessons and unknowns from influenza.
161. Encuentro de Científicos Españoles en Estados Unidos. Washington DC. September 2015. Mesa redonda inaugural.
162. Host responses to the virus microbiome: The evolution of immunity. Vienna, Austria. October 2016. Co-evolution of respiratory viruses and host responses: Lessons from influenza
163. Chair of the session Vaccines against Viral Pathogens at the 9th Vaccine & International Society for Vaccines Congress. Seoul, South Korea. October 2015.

164. Grand Challenges Annual Meeting 2015. Beijing, China. October 2015. Universal flu vaccines.
165. 2015 IDWeek meeting. San Diego, California. October 2015. Influenza epidemics and pandemics.
166. Vaccines against antigenically variable viruses 2015. Ames, Iowa. November 2015. A universal influenza virus vaccine approach based on chimeric hemagglutinins.
167. Rencontres sur la Grippe et sa Prévention, Groupe d'Expertise et d'Etudes sur la Grippe. Lyon, France. November 2015. Universal influenza virus vaccines.
168. 2015 DASAN Conference. Busan, South Korea. December 2015. Universal influenza virus vaccines.
169. 2016 TEPIK International Influenza Symposium. Seoul, South Korea. March 2016. Towards a universal influenza virus vaccine.
170. 35th Annual Summer Symposium in Molecular Biology. Penn State University. University Park, Pennsylvania. May 2016. Influenza virus-host interactions.
171. President's Symposium at IMMUNOLOGY 2016, American Association of Immunology. May 2016. Seattle, Washington. Regulation of innate immune pathways during RNA virus infections
172. GTCbio: 14th Vaccines Research & Development. San Diego, California. June 2016. Towards and influence virus vaccine.
173. 74th Annual Meeting of the Swiss Society for Microbiology. Bern, Switzerland. June 2016. Influenza virus-host interactions.
174. 74th Annual Meeting of the Swiss Society for Microbiology. Bern, Switzerland. June 2016. Molecular strategies for risk mitigation of gain of function experiments.
175. 16th Annual Meeting of the Federation of Clinical Immunology Societies (FOCIS 2016). Boston, Massachusetts. June 2016. Towards a universal influenza virus vaccine.
176. Influenza Immunology Symposium 2016. New Haven, Connecticut. June 2016. Adventures in influenza virus-host interactions.
177. Options for the Control of Influenza IX Conference. Chicago, Illinois. August 2016. Antiviral Innate Immune Responses to Influenza Viruses.

178. 1st Human & Translational Immunology Conference. Rhodes, Greece. September 2016. IFITM3 prevents influenza virus-induced immunopathology.
178. 5th International Influenza Meeting. Munster, Germany. September 2016. New insights in influenza virus-host interactions.
179. Debunking Vaccine Myths and Advancing Immunization Awareness in the Era of Global Health. Washington DC. September 2016
179. Influenza - Repeat Vaccination Symposium. Vancouver, Canada. October 2016. Influenza Virology: A Primer on Evolution.
180. 4th Annual Meeting of the International Cytokine and Interferon Society. October 2016. San Francisco, California. October 2016. Inhibition of type I IFN signaling by flaviviruses.
181. 2016 International Society for Vaccines Annual Congress. Boston, Massachusetts. October 2016. Towards a Universal Influenza Virus Vaccine.
182. Emerging Viruses: Origins, Biology, and Control of Transmission. National Cancer Institute Frederick, Maryland. October 2016. Flavivirus NS5 interferon antagonism constrains virus host tropism.
183. 2016 ZADD Vaccine Workshop and CEEZAD Annual Meeting. Nebraska City, Nebraska. October 2016. Newcastle Disease Virus-Vectored HPAI Vaccine.
184. XXXI Meeting of the Mexican Society of Biochemistry. 2016. Aguascalientes, Mexico. November 2016. Influenza virus-host interactions.
185. Inaugural Scientific and Clinical Symposium on Pneumonia. Yale School of Medicine. New Haven, Connecticut. December 2016. Influenza Pneumonia and Pathogenesis.
186. V ICGEB Workshop on Human RNA Viruses. Universidad de Costa Rica, San José, Costa Rica. December 2016. Influenza virus-host interactions.
187. Keystone Symposia 2017 Type I Interferon: Friend and Foe Alike. Banf, Canada. March 2017. Regulation of influenza virus antiviral responses.
188. Keystone Symposia 2017 on Viral Immunity: Mechanisms and Consequences. Santa Fe, New Mexico. February 2017. Towards a universal influenza virus vaccine.
189. XXIII Congreso Anual de AMVECAJ. Tepatitlán, Jalisco, Mexico. February 2017. El factor influenza: mucho más que un virus porcino.

190. II Jornadas Seqirus Gripe. Valladolid, Spain. March 2017. Desarrollo de vacunas universales frente a la gripe.

191. 8th International Conference on Emerging Zoonoses. Manhattan, Kansas, USA. May 2017. Role of influenza virus host-interactions in host tropism.

192. 30th International Conference on Antiviral Research (ICAR). Atlanta, Georgia. May 2017. Host factors as potential targets for influenza virus antivirals.

193. 3rd Li Ka Shing Institute of Virology “Alberta Virology Conference”. Edmonton, Canada. June 2017. Role of Influenza Virus NS1 in Host Tropism.

194. XIV Congreso Nacional de Virología. Cádiz, Spain. June 2017. Toward a universal influenza virus vaccine

195. XIX International Symposium on Respiratory Viral Infections. Berlin, Germany. June, 2017. Keynote Address: Novel Intervention Strategies for Respiratory Viruses.

196. NIAID Workshop on a Universal Influenza Vaccine. Rockville, Maryland. June 2017. Diagnostics for Assessing Mechanisms of Immune Protection in Influenza.

197. 10th Annual CEIRS Network Meeting. Atlanta, Georgia. July 2017. Basic influenza.

B. Institutions

1. Center for Molecular Biology, Madrid, Spain. 1995. Expression vectors based on influenza viruses.

2. Institute of Microbiology, University of Salamanca, Salamanca, Spain. 1996. Genetically engineered influenza viruses as vaccine vectors.

3. Institute of Microbiology, University of Agriculture, Vienna, Austria. 1997. Recombinant influenza viruses as vaccine vectors.

4. National Institute of Infectious Diseases, Tokyo, Japan. 1999. The role of interferon in influenza virus pathogenicity.

5. Yamagata University School of Medicine, Yamagata, Japan. 1999. The role of interferon in influenza virus pathogenicity.

6. Kanazawa University School of Medicine, Kanazawa, Japan. 1999. Genetic engineering of influenza viruses.

7. Queens College Biology Department, New York, NY, USA. 1999. Genetic manipulation of influenza viruses: Virus attenuation and viral vectors.
8. Institute for Microbiology & Hygiene, University of Freiburg, Freiburg, Germany. 1999. The NS1 protein of influenza A virus, a type I interferon antagonist protein.
9. Bio-Méga Research Division, Boehringer Ingelheim, Laval, Québec, Canada. 2000. Viral interferon antagonists as antiviral targets.
10. Shering-Plough Research Institute, Kenilworth, New Jersey, USA. 2000. Viral interferon antagonists as antiviral targets.
11. Research Triangle Park, North Carolina State University, College of Veterinary Medicine, Raleigh, North Carolina, USA. December 2000. Type I interferon antagonist proteins encoded by influenza and Ebola viruses.
12. Centre Européen de Recherches en Virologie et Immunologie, Fondation Mérieux, Lyon, France. December 2000. Type I interferon antagonist proteins encoded by influenza and Ebola viruses.
13. Queens College Biology Department, New York, NY, USA. February 2001. Type I interferon antagonist proteins encoded by influenza and Ebola viruses.
14. Department of Microbiology, University of Salamanca, Salamanca, Spain. April 2001. Inhibition of the interferon-mediated antiviral responses by influenza and Ebola viruses.
15. Eli Lilly and Company, Lilly Research Laboratories, Lilly Corporate Center, Indianapolis, Indiana, USA. July 2001. Type I interferon antagonists encoded by influenza and Ebola viruses.
16. Department of Infectious Diseases, Mount Sinai Hospital, New York, New York, USA. September 2001. Type I interferon antagonists encoded by influenza and Ebola viruses.
17. New York Academy of Sciences, New York, New York, USA. January 2002. Molecular design of improved influenza virus vaccines.
18. Department of Microbiology, Washington University, Seattle, Washington, USA. January 2002. Interferon antagonist proteins encoded by influenza and Ebola viruses.
19. Iowa State University, Ames, Iowa, USA. June 2002. Inhibition of the type I interferon system by influenza A viruses.
20. National Animal Disease Center, USDA, Ames, Iowa, USA. June 2002. Reverse genetics approaches for the generation of live vaccines against influenza.

21. Department of Infectious Diseases, Mount Sinai Hospital, New York, New York, USA. November 2002. Evasion of the type I interferon response by influenza viruses.
22. Department of Infectious Diseases, St. Jude Children's Research Hospital, Memphis, Tennessee, USA. December 2002. Evasion of the type I interferon response by influenza viruses.
23. Virology Seminar Series, Columbia University, New York, NY, USA. February 2003. Inhibition of the type I interferon system by negative strand RNA viruses.
24. Division of Nephrology's Research Conferences, Mount Sinai School of Medicine, New York, NY, USA. February 2003. Evasion of type I interferon responses by influenza virus.
25. Department of Microbiology and Immunology, Wake Forest University School of Medicine, Winston-Salem, North Carolina, USA. February 2003. Virulence factors of influenza A virus: The NS1 protein.
26. Virology Dinner Club, Bristol-Myers Squibb Company, Wallingford, Connecticut, USA. February 2003. Interferon antagonistic properties of the NS1 protein of influenza A virus.
27. Center for Immunology & Microbial Disease, Albany Medical College, Albany, NY, USA. March 2003. Inhibition of the type I interferon system by negative strand RNA viruses.
28. Department of Microbiology, University of Texas Southwestern Medical Center, School of Medicine. April 2003. Evasion of the type I interferon response by negative strand RNA viruses.
29. Chiron, Siena, Italy. June 2003. Antagonists of type I interferon encoded by RNA viruses
30. Emerging Infectious Diseases Seminar Series of the New York Academy of Sciences. October 2003. Towards understanding the pathogenicity of an extinct pathogen: the 1918 Spanish influenza virus.
31. Department of Immunology and Microbiology. Nihon University, Tokyo, Japan. October 2003. Viral inhibition of the type I interferon response.
32. Department of Molecular Microbiology and Immunology. Brown University, Providence, RI. December 2003. Viral interferon antagonists.
33. Walter Reed Army Institute of Research. Silver Spring, MD. February 2004. Type I interferon antagonists of RNA viruses: Novel targets for attenuation in live virus vaccines.
34. National Animal Disease Center, USDA, Ames, Iowa, USA. August 2004. Virulence factors of influenza A virus and their role in exacerbated disease during the 1918 Spanish influenza pandemic.

35. Institute for Microbiology & Hygiene, University of Freiburg, Freiburg, Germany. September 2004. Viral antagonists of type I interferon.
36. The Avrum Gudelsky Veterinary Center, University of Maryland, College Park, Maryland, USA. December 2004. Interfering with interferon: Evasion of innate immunity by RNA viruses.
37. Department of Medicine. University of Massachusetts Medical School, Worcester, Massachusetts. December 2004. Viral interference with type I interferon.
38. W. Harry Feinstone Department of Molecular Microbiology and Immunology, Division of Infectious Diseases, John Hopkins University, Baltimore, Maryland. January 2005. Reverse genetics of influenza virus: Viral vectors and vaccines.
39. Department of Biochemistry and Molecular Pharmacology, Thomas Jefferson University, Philadelphia, Pennsylvania. February 2005. Evasion of the type I interferon response by RNA viruses.
40. Dean=s lectures series, Mount Sinai School of Medicine, New York, NY. February 2005. Evasion of type I interferon response by viruses.
41. Department of Microbiology and Molecular Genetics, Harvard Medical School, Boston, Massachusetts. March 2005. Inhibition of the type I interferon response by the NS1 protein of influenza virus.
42. Biodefense & Emerging Infectious Disease Seminar Speaker, Wadsworth Center, Albany, NY. April 2005. Viral interference with type I interferon.
43. Molecular Virology Seminar Speaker, University of Wisconsin. April 2005. The NS1 of influenza virus: IFN antagonism and beyond.
44. Dept of Medical Microbiology & Immunology, University of Wisconsin. April 2005. Inhibition of type I IFN responses by RNA viruses.
45. Baylor Institute for Immunology Research, Dallas, Texas. September 2005. Viral interference with type I interferon.
46. Department of Molecular Genetics and Microbiology. Stony Brook University, Stony Brook, NY. November 2005. Spanish influenza: virulence factors, antivirals and vaccines.
47. Department of Microbiology and Immunology. University of Illinois at Chicago, Chicago, Illinois. November 2005. Spanish influenza: virulence factors, antivirals and vaccines.
48. Division of Infectious Diseases. Albert Einstein College of Medicine, New York, NY. December 2005. Spanish influenza: virulence factors, antivirals and vaccines.

49. Biological Station of Doñana. CSIC, Seville, Spain. December 2005. Applications of influenza virus reverse genetics techniques.
50. Pediatric Grand Rounds. Jacobi Medical Center, New York, NY. January 2006. The 1918 Influenza Pandemic.
51. Microbiology Graduate Program Seminar, Yale University School of Medicine, New Haven, Connecticut. January 2006. Spanish influenza: virulence factors, antivirals, and vaccines.
52. Institute for Microbiology & Hygiene, University of Freiburg, Freiburg, Germany. March 2006. Spanish influenza: virulence factors, antivirals, and vaccines.
53. Queens College Biology Department, New York, NY, USA. March 2006. Lessons learned from the 1918 influenza virus.
54. Emory Vaccine Center, Atlanta, GA, USA. March 2006. Interfering with interferon: the NS1 of influenza virus.
55. University of Pennsylvania Medical Center, Philadelphia, PA. April 2006. Inhibition of type I interferon by RNA viruses.
56. Aaron Diamond AIDS Research Center, New York, NY. April 2006. Inhibition of type I interferon responses by RNA viruses.
57. The University of Texas Medical Branch, Galveston, TX. April 2006. Reverse genetics studies of influenza virus.
58. Engineering School of Gijon, University of Oviedo, Gijon, SPAIN. April 2006. El virus de la gripe: mitos y realidades.
59. Albert Einstein College of Medicine, New York, NY. May 2006. Reconstruction and characterization of the 1918 influenza virus.
60. Hosei University, Tokyo, Japan. September 2006. Reconstruction and characterization of the pandemic 1918 influenza virus.
61. McMasters University, Hamilton, Canada. September 2006. Reconstruction and characterization of the pandemic 1918 influenza virus.
62. New York Academy of Sciences, New York, NY. Emerging Infectious Diseases Discussion Group on “Flu preparedness”. October 2006. Can Vaccines stop the next Influenza Virus Pandemia? A Virologist Perspective.

63. Mount Sinai School of Medicine. Pediatric Research Seminars, New York, NY. October 2006. Reconstruction and characterization of the 1918 pandemic influenza virus.
64. University of North Carolina, Chapel Hill, North Carolina. UNC-CH Virology Colloquium. October 2006. Insights on the pandemic 1918 influenza virus.
65. New England Primate Research Center, Southborough, Massachusetts. November 2006. New Insights in Influenza Virus: Pathogenesis, Transmission and Vaccines.
66. La Jolla Institute for Allergy and Immunology, La Jolla, California. January 2007. New Insights in Influenza Virus: Pathogenesis, Transmission and Vaccines.
67. Division of Infectious Diseases and the Emerging Pathogens Institute, Mount Sinai School of Medicine, New York, NY. January 2007. New Insights in Influenza Virus: Pathogenesis, Transmission and Vaccines.
68. Department of Microbiology and Immunology, University of Texas Health Science Center at San Antonio, San Antonio, Texas. April 2007. Studies on influenza virus pathogenicity and transmission.
69. Center for Vaccine Research, University of Pittsburgh, Pittsburgh, Pennsylvania. April 2007. Insights on influenza virus pathogenesis and transmission.
70. Department of Entomology, UC Riverside, Riverside, California. April 2007. New insights on influenza virus pathogenesis and transmission.
71. The Elizabeth B. Lamb Center for Pediatric Research, Vanderbilt University School of Medicine, Nashville, Tennessee. May 2007. Induction and Inhibition of Type I IFN by RNA Viruses.
72. Trudeau Institute, Saranac Lake, New York. June 2007. Influenza virus: molecular pathogenesis and transmission
73. Harvard Institutes of Medicine, Boston, Massachusetts. September 2007. Influenza virus: from genes to disease.
74. Department of Pathology & Cell Biology, Columbia University, New York, New York. October 2007. Influenza virus: from genes to disease.
75. Department of Microbiology, University of Chicago, Chicago, Illinois. October 2007. Influenza virus: from genes to disease.
76. Department of Medicine Grand Rounds, Mount Sinai School of Medicine, New York, New York. November 2007. Use of reverse genetics for the generation of influenza virus vaccines.

77. Department of Molecular Microbiology, Washington University School of Medicine, St Louis, Missouri. November 2007. Influenza virus: from genes to disease.
78. Center for Medical Research, Merida, Mexico. December 2007. Influenza virus: from genes to disease.
79. Scripps Institute, San Diego, California. February 2008. Induction and Inhibition of Type I IFN by RNA Viruses.
80. Erasmus Medical School, Rotterdam, The Netherlands. March 2008. Potential live attenuated influenza virus vaccines based on modifications of the viral NS1 gene
81. New York City Department of Health & Mental Hygiene, New York, New York. March 2008. Influenza virus: from genes to disease.
82. Biomedical Advanced Research & Development Authority, US Department of Health and Human Services, Washington DC. April 2008. Live Influenza Virus Vaccine based on NS1 Modification
83. Georgetown University, Washington DC. April 2008. Viral interferon antagonist proteins as potential targets for vaccine and therapeutic intervention: insights from influenza virus
84. Center for Infectious Disease and Vaccinology, Biodesign Institute, Arizona State University, Tempe, Arizona. May 2008. Viral induction and inhibition of the interferon system
85. Department of Molecular Medicine, Mayo Clinic, College of Medicine, Rochester, Minnesota. May 2008. RNA virus-encoded type I IFN antagonists
86. Rockefeller University Hospital, New York, New York. May 2008. Influenza viruses: From genes to disease
87. Laboratory of Infectious Diseases, NIH, Bethesda, Maryland. May 2008. Induction and inhibition of the type I interferon response by RNA viruses.
88. Department of Molecular Virology, University of Heidelberg, Heidelberg, Germany. June 2008. Induction and inhibition of the type I interferon response by RNA viruses.
89. Department of Molecular Biology, University of Aarhus, Aarhus, Denmark. June 2008. Reconstruction and characterization of the 1918 pandemic influenza virus.
90. Department of Medicine, Mount Sinai School of Medicine, New York, New York. July 2008. Interferon or death.

91. Memorial Sloan-Kettering Cancer Center Infectious Diseases Grand Rounds, New York, New York. November 2008. Influenza Virus: Pathogenesis and Vaccines.
92. Department of Biology, New York University. New York, New York. November 2008. Induction and inhibition of type I IFN by RNA viruses.
93. University of Puerto Rico School of Medicine. San Juan, Puerto Rico. November 2008. Inhibition of the IFN response by influenza and dengue viruses.
94. Jacobi Medical Center, New York, New York. December 2008. Pediatric Grant Rounds. The influenza pandemic of 1918 and new influenza virus vaccines.
95. Aaron Diamond AIDS Research Center, New York, New York. January 2009. Optimization of HIV Gag expression by Newcastle disease virus vectors for the induction of potent immune responses
96. Stanford University School of Medicine, department of Microbiology and Immunology Seminar Series, Stanford, California. January 2009. Inhibition of type I interferon responses by RNA viruses.
97. University of Chicago Medical Center, Chicago, Illinois. January 2009. Molecular pathogenesis of influenza virus.
98. UT Southwestern, Department of Cell Biology Seminar Series, Dallas, Texas. February 2009. Inhibition of the type I interferon response by influenza virus.
99. Harvard Medical School, Virology Seminar Series. Boston, Massachusetts. March 2009. Inhibition of type I interferon responses by RNA viruses.
100. Thomas Jefferson University, Jefferson Vaccine Center Annual Retreat, Philadelphia, Pennsylvania. March 2009. New live attenuated vaccines for human and animal influenza.
101. University of Rochester, Department of Microbiology and Immunology Seminar Series, Rochester, New York. April 2009. Subversion of the type I interferon responses by RNA viruses.
102. Rocky Mountains Laboratories, NIH. Distinguished Speaker Seminar Series, Hamilton, Montana. April 2009. Subversion of the type I interferon responses by RNA viruses.
103. Biomedicum Helsinki Research Center Seminar Series, Helsinki, Finland. May 2009. Inhibition of type I interferon responses by RNA viruses.
104. Mount Sinai School of Medicine. Allergy / Immunology Grand Rounds, New York, New York. May 2009. Influenza virus and type I interferon.

105. Rockefeller University, Virology Course Lecture, New York, New York, May 2009. Re-emerging viruses: Influenza
106. McGill University, Montreal, Canada. June 2009. Molecular studies on influenza virus.
107. King's College, London, UK. July 2009. Inhibition of the type I interferon response by RNA viruses.
108. Leiden University Medical Center, Leiden, Netherlands. July 2009. Inhibition of type I interferon responses by RNA viruses.
109. University of Vermont, Immunology and Infectious Disease Program Seminars. Burlington, Vermont. August 2009. Influenza viruses: from genes to disease.
110. Amsterdam Medical School, Amsterdam, Netherlands, September 2009. Molecular studies on influenza viruses.
111. Utrecht University, Utrecht, Netherlands, September 2009. Molecular studies on influenza viruses.
112. Groningen University, Groningen, Netherlands, September 2009. Molecular studies on influenza viruses.
113. Nijmegen University, Nijmegen, Netherlands, September 2009. Molecular studies on influenza viruses
114. Boston University School of Medicine. Department of Microbiology/Section of Infectious Diseases Seminar Series. Boston, Massachusetts. September 2009. Influenza viruses: from genes to disease.
115. Baylor Institute for Immunology Research, Dallas, Texas. October 2009. New pandemic H1N1 virus.
116. North Carolina State University, Biotechnology graduate training program annual symposium, Raleigh, North Carolina. November 2009. A new live attenuated vaccine approach for influenza virus.
117. MRC National Institute for Medical Research, London, UK. December 2009. Pandemic H1N1: Interactions with the host.
118. Fox Chase Cancer Center, Distinguished Lectures Series, Philadelphia, Pennsylvania. December 2009. Evasion of type I interferon responses by RNA viruses.

119. University of Louisville, Department of Microbiology and Immunology Seminar Series, Louisville, Kentucky. January 2010. Molecular pathogenesis of influenza virus
120. Columbia University Medical Center, Department of Microbiology Seminar Series. New York, New York. March 2010. Influenza 1918-2010.
121. UC Berkeley, 2010 Microbiology Student Symposium. San Francisco, California. April 2010. New insights in influenza virus biology.
122. Mount Sinai School of Medicine. Immunology Institute Seminar Series. New York, New York. May 2010. Molecular pathogenesis of pandemic H1N1 influenza viruses.
123. Weill Cornell Medical College. Community and Public Health Research and Clinical Rounds. New York, New York. December 2010. New Pandemic H1N1 Virus.
124. Tulane National Primate Research Center. Seminar Series. Covington, LA. December 2010. Novel insights on influenza virus biology.
125. Drexel University College of Medicine, Dept. of Microbiology and Immunology Seminar Series. Philadelphia, PA. December 2010. Induction and evasion of type I IFN responses by RNA viruses.
126. John A. Burns School of Medicine University of Hawaii at Manoa. Department of Tropical Medicine, Medical Microbiology and Pharmacology Seminar Series. Honolulu, Hawaii. January 2011. Induction and inhibition of type I IFN responses by RNA viruses.
127. College of Veterinary Medicine Cornell University. Department of Microbiology and Immunology Seminar Series. Ithaca, New York. January 2011. Mechanisms of viral evasion of the type I IFN response
128. Institute of Medical Science, University of Tokyo. Division of Virology, Department of Microbiology and Immunology Seminar Series. Tokyo, Japan. March 2011. Inhibition of IFN responses by RNA viruses.
129. National Center of Biotechnology. Department of Cellular and Molecular Biology Seminar Series. Madrid, Spain. May 2011. Induction and inhibition of type I IFN responses by RNA viruses.
130. University of Maryland School of Medicine. Department of Microbiology and Immunology Seminar Series. Baltimore, MD. May 2011. Induction and inhibition of interferon responses by RNA viruses
131. University of Kansas. Noble P Sherwood seminar series. Kansas, KS. September 2011. Induction and inhibition of IFN responses by RNA viruses.

132. Consulate General of France in New York. Series of monthly conferences. New York, NY. October 2011. H1N1, E. coli, BSE, SARS ... are we armed against new pandemics?
133. Albert Einstein College of Medicine. Virology course. New York, NY. November 2011. The role of innate immunity in blocking viral infections.
134. University of North Carolina in Chapel Hill. Department of Microbiology and Immunology Seminar Series. November 2011. Induction and evasion of type I IFN by RNA viruses.
135. Jacobi Medical Center. Pediatric Grand Rounds. New York, NY. December 2011. Comparing the 1918 Flu Pandemic to the 2009 Pandemic.
136. College of Veterinary Medicine, Mississippi State University. Department of Basic Sciences Seminar Series. Mississippi State University, Mississippi. January 2012. Induction of innate immune responses by RNA viruses.
137. University of California, Irvine. Department of Microbiology and Molecular Genetics Seminar Series. Irvine, California. January 2012. Induction of type I IFN by RNA viruses.
138. Vaccine & Gene Therapy Institute of Florida. Seminar Series. Port St. Lucie, Florida. February 2012. Induction and inhibition of type I IFN responses by RNA viruses.
139. Memorial Sloan-Kettering Cancer Center. Tri-I Immunology & Microbial Pathogenesis Research Seminar Series. February 2012. Induction and inhibition of type I interferon by RNA viruses.
140. Ecole Normale Supérieure at Lyon. Virus and Immunity Lectures. Lyon, France. February 2012. Influenza viruses.
141. Penn State Hershey College of Medicine. Department of Microbiology and Immunology Seminar Series. Hershey, PA. March 2012. Induction and regulation of RIG-I antiviral responses.
142. University of California at San Diego. Immunobiology Seminar Series. San Diego, California. Tracking influenza virus infection.
143. University of Geneva. Conferences Series Frontiers in Biomedicine. Geneva, Switzerland. May 2012. Induction and evasion of type I interferon responses by RNA viruses.
144. Northwestern University Feinberg School of Medicine. Microbiology-Immunology Department Seminar Series. Chicago, Illinois. May 2012. Viral inhibition of type I interferon responses.
145. Yale University School of Medicine. Department of Immunobiology Seminar Series. New

Haven, Connecticut. Jan 2013. Induction and regulation of RIG-I.

146. University of Washington. Department of Microbiology Seminar Series. Seattle, Washington. Jan 2013. Induction and regulation of RIG-I innate immune responses.

147. National Institutes of Health, Division of Microbiology and Infectious Diseases Seminar Series. Bethesda, Maryland. February 2013. From large data to biology: HIV and influenza virus

148. Mount Sinai School of Medicine, Department of Genetics and Genomic Sciences Seminar Series. February 2013. Positive and Negative Regulation of Virus Sensing.

149. Emory University. Microbiology and Molecular Genetics Program. Biannual Symposium “Frontiers in Microbial Pathogenesis”. Atlanta, Georgia. May 2013. TRIM-ing the interferon response.

150. University of Ghent, Department for Molecular Biomedical Research Seminar Series. Ghent, Belgium. May 2013. Influenza virus genes and disease.

151. Harbin Veterinary Research Institute. Harbin, China. June, 2013. Influenza virus: Drift, shift and antigenicity.

152. Roche, Translational Clinical Research Center Inauguration Symposium. New York, New York. October 2013. Influenza challenges today.

153. UMDNJ-New Jersey Medical School. Public Health Research Institute Seminar Series. Newark, New Jersey. October 2013. Induction and regulation of the IFN-mediated antiviral response.

154. Albert Einstein College of Medicine. Department of Microbiology and Immunology. New York, New York. October 2013. Regulation of RIG-I mediated antiviral responses.

155. Pontificia University of Chile. Department of Medicine. Santiago de Chile, Chile. November 2013. Towards a universal influenza virus vaccine

156. Li Ka Shing Faculty of Medicine. The University of Hong Kong, Hong Kong. November 2013. Influenza virus NS1: A master regulator of the antiviral host response.

157. Australian Animal Health Laboratory . Geelong, Australia. February 2014. TRIMunity: The roles of the TRIM E3-ubiquitin ligase family in innate antiviral immunity .

158. Vaccine Research Center. NIH, Bethesda, Maryland, USA. February 2014. Induction and regulation of antiviral innate signaling.

159. Divisions of Infectious Diseases of Memorial Sloan-Kettering Cancer Center and Weill

Cornell Medical College. New York, NY. May 2014. H7N9 influenza viruses.

160. Microbiology/Immunology Seminar Series at University of Minnesota. Minneapolis, Minnesota. September 2014. Regulation of Innate Immune Signaling by TRIMs

161. Albert Einstein College of Medicine. Department of Microbiology and Immunology Virology course. New York, NY. October 2014. Host Innate immunity vs. Viral antagonism.

162. Distinguished Visiting Scholar, Virginia Tech Carilion Research Institute (VTCRI). Roanoke, Virginia. November 2014. Influenza epidemics and pandemics.

163. University of Tokyo. Tokyo, Japan. November 2014. Virus-host interactions.

164. University of Michigan. Department of Microbiology & Immunology. Ann Arbor, Michigan. December 2014. InTRIMsic immunity: Regulation of immune signaling by tripartite motif proteins.

165. Conferencia 20 aniversario Instituto Investigación Vall d'Hebron. Barcelona, Spain. January 2015. Influenza epidemics and pandemics.

166. Yale School of Medicine, Department of Microbial Pathogenesis. New Haven, Connecticut. January 2015. TRIMmunity: Role of TRIM proteins in innate immunity.

167. IHU Foundation “Méditerranée Infection”. Marseille, France. February 2015. Influenza epidemics and pandemics.

168. Centro de Investigación Príncipe Felipe. The Future of Biomedical Research Lecture Series. Valencia, Spain. March 2015. Influenza epidemics and pandemics.

169. Yale University, Department of Microbial Pathogenesis. Molecular Biology of Animal Viruses Course. New Haven, Connecticut. March, 2015. Influenza viruses: from genes to disease.

170. Yale University, Department of Microbial Pathogenesis. New Haven, Connecticut. March, 2015. Influenza: epidemics and pandemics

171. Institute of Pathogen Biology. Beijing, China. April 2015. Influenza virus-host interactions.

172. Ohio State University. Department of Microbial Infection and Immunity. Columbus, Ohio. May 2015. Influenza virus-host interactions.

173. Ohio Virology Association. Nationwide Children's Hospital. Columbus, Ohio. May 2015. TRIM proteins: Regulators of virus sensing and antiviral immunity

174. New York Medical College. Department of Microbiology and Immunology. Valhalla, New

York. June 2015. Influenza epidemics and pandemics.

175. Laboratorio de Virologia Medica del Centro de Investigacion Biomedica del IMSS. Puebla, Mexico. August 2015. Gripe: epidemias y pandemias.

176. Albert Einstein College of Medicine. Department of Microbiology and Immunology Virology course. New York, New York. October 2015. Host Innate immunity vs. Viral antagonism.

177. University of Naples. Naples, Italy. November 2015. Universal influenza virus vaccines.

178. La Jolla Institute for Allergy and Immunology. La Jolla, California. December 2015. Influenza virus-host interactions.

179. University of Pennsylvania Microbiology Seminars. Philadelphia, Pennsylvania. January 2016. Influenza virus-host interactions,

180. Fundación Universitaria San Pablo-Ceu. Madrid, Spain. February 2016. Gripe, MERS, Ebola, Zika ... Estamos preparados contra la próxima pandemia?

181. Centro de Biología Molecular "Severo Ochoa". Madrid, Spain. February 2016. Influenza virus-host interactions.

182. Icahn School of Medicine at Mount Sinai, Human Immunomonitoring Center and Cancer Immunology and Immunotherapy Seminar Series. New York, New York. February 2016. Newcastle disease virus-based anti-tumor therapies.

183. National Center for Advancing Translational Sciences, NIH. Rockville, Maryland. February 2016. Influenza virus-host interactions.

184. Washington University. Department of Molecular Microbiology. St Louis, Missouri. March 2016. Influenza virus-host interactions.

185. McGill University. Department of Microbiology & Immunology. 5th Graduate Student Research Day. Montreal, Canada. May 2016. Adventures on virus-host interactions.

186. University of Illinois. Department of Microbiology. Chicago, Illinois. June 2016. Influenza virus-host interactions.

187. University of Chicago. Department of Microbiology. Chicago, Illinois. June 2016. Influenza virus-host interactions.

188. University of Freiburg. Institute of Virology Medical Center. Freiburg, Germany. July 2016. Adventures in influenza and flavivirus-host interactions.

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1. Xiuyan Wang: Inhibition of signaling by influenza virus. 2002
2. Nicola Donelan: Studies on the NS1 of influenza virus. 2004
3. Adam Vigil: NDV as an oncolytic agent. 2008
4. Natalia Frias-Staheli: Crimean-Congo hemorrhagic virus biology. 2008
5. Maudry Laurent-Rolle: Conservation of Flavivirus NS5 function as an interferon antagonist. 2009
6. Joe Ashour: Inhibition of IFN by dengue virus. 2009
7. Estanis Nistal-Villan: Antiviral activity of TRIM genes. 2010
8. Alina Peterson: Mechanism of interferon induction by RNA viruses. 2011
9. Jenish Patel: Activation of Cytosolic Pathogen Sensor Retinoic Acid-Inducible Gene I. 2013.
10. Scott Speer: ISG15. Species-specific modulator of immune function. 2015
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10.- PATENTS

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