*CURRICULUM VITAE*

# STEPHEN JOSEPH GALLI, M.D.


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| Address: | 2 Acorn, Portola Valley, CA 94028 |
| Date of Birth: | February 15, 1947 |
| Place of Birth: | Somerville, MA, USA |


**Brief biography:**

In 1999, I became chair of the Department of Pathology (and finished my tenure in that role on April 30, 2016), the Mary Hewitt Loveless, MD Professor, and a professor of pathology and of microbiology and immunology at Stanford University School of Medicine. I am also a member of the Executive Committee of the Stanford Institute for Immunity, Transplantation and Infection. From 2009-2016, while chair of pathology, I also was Co-Director of the Stanford Center for Genomics and Personalized Medicine.

I received a BA in biology in 1968 from Harvard College, a BMS in 1970 from Dartmouth Medical School (then a two year school) and the MD in 1973 from Harvard Medical School (HMS), and completed a residency and chief residency in Anatomic Pathology at Massachusetts General Hospital (MGH) in 1977. After postdoctoral training with Harold F. Dvorak at MGH, I joined the HMS faculty in 1979 as assistant professor of pathology, became professor of pathology in 1993, and, until moving to Stanford, served as director of the Division of Experimental Pathology at Beth Israel Deaconess Medical Center and a member of the HMS Committee on Immunology.

My research focuses on the development and function of mast cells and basophils (major effector cells in allergic disorders) and the development of new animal models for studying the roles of these cells in health and disease. I have particular interests in the roles of these cells in anaphylaxis, food allergies, and asthma, and in the roles of mast cells and IgE in innate and acquired host defense against venoms.

I serve on the editorial boards of The Annual Review of Pathology: Mechanisms of Disease, Allergology International, and Laboratory Investigation and on the Board of Consulting Editors for the Journal of Clinical Investigation, and was an Advisory Editor for the Journal of Experimental Medicine from 1993-2011. I have organized or co-organized four Keystone Symposia in the fields of mast cells, allergy, allergic inflammation, and asthma, a Novartis Symposium on anaphylaxis, and four international meetings on the biology of mast cells and basophils.

I was president of the American Society for Investigative Pathology (ASIP) (2005-2006) and have been elected to the Pluto Club (American Association of University Pathologists) (President for 2018-2019), the Collegium Internationale Allergologicum (President from 2010-2014), the American Society for Clinical Investigation, the Association of American Physicians, the American Clinical and Climatological Association, and the National Academy of Medicine. I am also a fellow of the American Association for the Advancement of Science and a foreign member of the Accademia Nazionale dei Lincei (National Academy of the Lynxes) in Rome, regarded as the oldest secular scientific society in the Western World. I received a MERIT Award from the NIAID/NIH (1995), Scientific Achievement Awards from the International Association of Allergy & Clinical Immunology (1997) and the World Allergy Organization (2011), the Rous-Whipple Award of the ASIP (2014), and the Karl Landsteiner Medal of the Austrian Society of Allergology and Immunology (2014).

In 2006-2007, the last year of a three year elected term, I was the Chair of the Advisory Board to the President and Provost of Stanford University. Among other responsibilities, the Advisory Board makes final recommendations on all faculty appointments and promotions in the tenure or research lines throughout Stanford University.

**Education:**

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| 1968 | B.A., Harvard College, Cambridge, MA |
| 1970 | B.M.S., Dartmouth Medical School, Hanover, NH |
| 1973 | M.D., Harvard Medical School, Boston, MA |

Internship and Residencies:

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| 1973-1977 | Resident, Department of Pathology, Massachusetts General Hospital (MGH), Boston, MA |
| July-Oct., 1976 | Chief Resident in Pathology, Department of Pathology, MGH |

Research Fellowships:

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| 1971-1972 | Karin Grunebaum Cancer Research Foundation Fellow in the laboratory of Richard A. Adams, Children's Cancer Research Center (now the Dana-Farber Cancer Institute), Harvard Medical School (HMS), Boston, MA |
| 1974-1976 | United States Public Health Service Training Grant with Harold F. Dvorak, Department of Pathology, MGH, Boston, MA |
| 1977-1978 | Medical Foundation, Inc., Fellow at MGH and HMS, Boston, MA |

**Licensure and Certification:**

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| 1974 | National Board of Medical Examiners |
| 1977-2001 | Massachusetts Registration (License No. 40908) |
| 1999 (current) | California Registration (License No. G085246) |
| 2001 | Program for Chiefs of Clinical Services, Harvard School of Public Health, January 14-26, 2001 |

**Academic Appointments:**

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| 1978-1979 | Instructor in Pathology at the Massachusetts General Hospital, Harvard Medical School (HMS), Boston, MA |

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| 1979-1983 | Assistant Professor of Pathology, HMS |
| 1983-1993 | Associate Professor of Pathology, HMS |
| 1993-1999 | Professor of Pathology, HMS |
| March 1, 1999-April 30, 2016 | Chair, Department of Pathology, Stanford University, Stanford, CA |
| March 1, 1999-Present | Professor of Pathology and of Microbiology and Immunology & Mary Hewitt Loveless, MD, Professor in the School of Medicine, Stanford University, Stanford, CA |

**Hospital Appointments:**

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| 1978-1979 | Assistant in Pathology, Massachusetts General Hospital, Boston, MA |
| 1980-1984 | Assistant Pathologist, Beth Israel Hospital, Boston, MA |
| 1984-1985 | Associate Pathologist, Beth Israel Hospital, Boston, MA |
| 1985-1999 | Pathologist, Beth Israel Hospital, Boston, MA |
| 1982-1989 | Director, Autopsy Service, Beth Israel Hospital, Boston, MA |
| 1983-1989 | Director, Pathology Research Laboratories, Department of Pathology, Beth Israel Hospital, Boston, MA |
| 1989-1996 | Director, Division of Experimental Pathology, Department of Pathology, Beth Israel Hospital, Boston MA |
| 1996-1999 | Director, Division of Experimental Pathology, Beth Israel Deaconess Medical Center, Boston, MA |
| 1999-2000 | Chief of Pathology and Director, Pathology Residency Program, UCSF Stanford Health Care South Campus, Stanford, CA |
| 2000-2010 | Director, Pathology Residency Program, Stanford Hospital & Clinics, Stanford University Medical Center, Stanford, CA |
| 2000-2010 | Chief of Pathology Service, Stanford Hospital & Clinics, Stanford University Medical Center, Stanford, CA (this role was assumed by the Vice Chair of Pathology for Clinical Services in 2010) |

**Assignments in Professional Societies:**

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| 1975 | *American Association for the Advancement of Science* |
| 1980 | *American Association of Immunologists* |
| 1980-1984 | Associate Editor, The Journal of Immunology |
| 1982 | *American Society for Investigative Pathology* |
| 1999-2000 | Chair, Task Force for Research and Training Opportunities in Pathology |
| 2003-2004 | Vice-President-elect (this is the initial position for the newest President-elect of this society) |
| 2004-2005 | Vice-President |
| 2005-2006 | President |
| 2006-2007 | Past-President |
| 1984 | *Collegium Internationale Allergologicum* |
| 1994 | Co-Organizer, 1994 Meeting |
| 1994-1998 & 2002-Present | Member of Council |
| 2002-2006 | Secretary |
| 2006-2010 | Vice President |
| 2010-2014 | President |
| 2012 | Co-Organizer, 2012 Meeting |
| 2014-2018 | Past President |
| 1986 | *Pluto Club (Association of University Pathologists)* |
| 2015 | President-elect (will be President in 2019) |
| 2010 | *Institute of Medicine of the National Academies, USA (in 2015, the IOM was renamed the National Academy of Medicine, USA)* |
| 2011 | Member, *National Research Council* committee to write a report requested by the NIH Director on a framework for a new taxonomy of disease. |
| 2015-2016 | Member, Institute of Medicine Committee on Food Allergies: Global Burden, Causes, Treatment, Prevention, and Public Policy. |
| 2013-2015 | *World Allergy Organization*<br>Chair, WAO Special Committee on Innovative Approaches to Allergic Diseases (from systems biology to precision medicine) |
| 2015 | Member, Working Conference on the Classification and Nomenclature of Clonal Conditions. Basic Definitions in Genetics, Pathology & Oncology.<br>Medical University of Vienna, |

Vienna, Austria (August 22-23, 2015)

**Honors & Awards:**

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| 1968 | B.A., *magna cum laude* in Biology, Harvard College |
| 1970 | B.M.S. with honors, Dartmouth Medical School |
| 1971-1972 | Karin Grunebaum Cancer Research Foundation Fellowship, Harvard Medical School |
| 1977-1978 | Medical Foundation Fellowship |
| 1984 | *Collegium Internationale Allergologicum* |
| 1986 | *Pluto Club* (Association of University Pathologists) |
| 1991 | *American Society for Clinical Investigation* |
| 1995-2006 | MERIT Award, N.I.A.I.D./N.I.H. (AI/CA 23990, "Regulation of mast cell development and function") |
| 1997 | *Association of American Physicians* |
| 1997 | Scientific Achievement Award, *International Association of Allergy & Clinical Immunology* (given every 3 years) |
| 2001 | *Accademia Nazionale dei Lincei (Foreign Member in the Physical, Mathematical, and Natural Sciences Class [Category V, Biological Sciences and Applications])* (The “National Academy of the Lynxes”, located in Rome, was established by Federico Cesi in 1603 and is regarded as the first secular scientific society in the Western world.) |
| 2006 | ISI Highly Cited Researcher (Immunology) |
| 2008 | Honorary Fellowship, *College of American Pathologists* |
| 2010 | President’s Award for Excellence Through Diversity, Stanford University |
| 2010 | Faculty Mentor Award for Postdoctoral Education, Immunology Program, Stanford University School of Medicine |
| 2010 | *Institute of Medicine of the National Academies, USA (in 2015, the IOM was renamed the National Academy of Medicine, USA)* |

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| 2011 | Scientific Achievement Award, *World Allergy Organization* (given every 2 years) |
| 2014 | Rous-Whipple Award, *American Society for Investigative Pathology* |
| 2014 | Karl Landsteiner Medal, *Austrian Society of Allergology and Immunology* |
| 2014 | Member, National Allergy and Infectious Diseases Council of the National Institutes of Health, U.S.A. (Nov. 1, 2014 – Jan. 28, 2019) |
| 2015 | Elected a Fellow of the *American Association for the Advancement of Science* |
| 2015 | *American Clinical and Climatological Association* |
| 2017 | *Sigma Xi* |
| 2017 | Overseas Fellow, the *Royal Society of Medicine (London)* |
| 2019 | Elected a Foreign Member of the *Società Nazionale di Scienze, Lettere e Arti* (Academy of Medical Sciences), based in Naples, Italy. |
| 2019 | *PhD Honoris Causa in Medicina Clinica e Sperimentale (Clinical and Experimental Medicine)*, University of Naples Federico II, Naples, Italy (May 29, 2019). |

**Special Lectures:**

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| 1992 | C. Warren Bierman Lectureship:<br>"The role of the mast cell in airway inflammation"<br>Annual Meeting of the American Academy of Allergy and Immunology (March 7, 1992) |
| 1996 | The Paul Kallós Memorial Lecture Award:<br>"The mast cell: A versatile effector cell for a challenging world"<br>Twenty-first Symposium of the *Collegium Internationale Allergologicum*, Salzburg, Austria (September 9, 1996) |
| 1997 | Dartmouth Medical School Bicentennial Lecture:<br>The mast cell: Friend or foe (and how can we know)?"<br>Department of Pathology, Dartmouth Medical School, Hanover, N.H. (May 20, 1997) |

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| 1997 | Pathology at Harvard Medical School, The First 150 Years:<br>"The two faces of the mast cell"<br>Harvard Medical School, Boston, MA (October 24, 1997) |
| 2004 | The Jerry Dolovich Memorial Lectureship:<br>"The expanding circle of mast cell activity in innate immunity, allergy, autoimmunity & fibrosis"<br>Annual Meeting of the American Academy of Allergy, Asthma and Immunology, San Francisco, CA (March 21, 2004) |
| 2004 | Ishizaka Lectureship:<br>"Mast cells: Elucidating their roles in physiology, host defense and disease – IgE and beyond"<br>La Jolla Institute for Allergy and Immunology, San Diego, CA (May 20, 2004) |
| 2006 | 44th Robert Cooke Memorial Lectureship:<br>"Animal models of anaphylaxis: Why are they important?"<br>Annual Meeting of the American Academy of Allergy, Asthma and Immunology, Miami, FL (March 5, 2006) |
| 2007 | 2007 Maud L. Menten Lecture:<br>"Mast cells: Important regulators of inflammation, tissue remodeling and host defense"<br>Department of Pathology, University of Pittsburgh, Pittsburgh, PA (March 14, 2007) |
| 2007 | 2007 Robert E. Stowell Lecture:<br>"New insights into the roles of mast cells in health and disease"<br>Department of Pathology, University of California at Davis, Davis, CA (March 20, 2007) |
| 2007 | 2007 Tanioku Kihei Memorial Lecture:<br>"Mast cells: Versatile regulators of inflammation, tissue remodeling, host defense and homeostasis"<br>32nd Annual Meeting of the Japanese Society for Investigative Dermatology, Yokohama, Japan (April 20, 2007) |
| 2012 | The Jerry Dolovich Memorial Lectureship:<br>"Pathophysiology of anaphylaxis: New concepts"<br>Annual Meeting of the American Academy of Allergy, Asthma and Immunology, Orlando, FL (March 5, 2012) |
| 2014 | ASIP Rous-Whipple Award Lecture:<br>"The mast cell-IgE paradox: From homeostasis to anaphylaxis" |

American Society for Investigative Pathology Annual Meeting at Experimental Biology 2014, San Diego, CA (April 27, 2014).

2014 Carl Prausnitz Memorial Lecture:
"Contributions of mast cells and IgE to innate and acquired resistance to venoms: *Is this the "good side" of allergy?*"
Collegium Internationale Allergologicum, 30th Symposium, Petersberg, Germany (September 16, 2014).

2015 Visiting Professor for the Annual Dr. Jordan Fink Lecture Series:
Medical College of Wisconsin, Milwaukee, WI (May 7-8, 2015).

2015 Workshop: Mast Cells and Mastocytosis – In Memoriam Paul Ehrlich (1854-1915):
"Origin and physiologic roles of mast cells"
Medical University of Vienna, Vienna, Austria (August 21, 2015)

2015 Paul Ehrlich Symposium (on the centenary of his death):
"Mastzellen: From their description by Paul Ehrlich to the identification of their roles in the "good side" of allergy".
Paul-Ehrlich-Institut, Langen, Germany (November 23, 2015)

2016 Snyder Endowed Chairs Seminar:
"Why do we have mast cells?"
University of Calgary, Calgary, Alberta, Canada (June 24, 2016).

2016 Plenary Lecture: International Congress of Immunology 2016:
"Why do we have mast cells and IgE? Roles in enhancing host defenses against venoms"
Melbourne, Australia (August 25, 2016).

2016 First Annual MERU-Roon Visiting Lectureship:
"What good are mast cells and IgE? Roles in enhancing host defenses against venoms"
The Scripps Research Institute, La Jolla, CA (December 12, 2016).

2017 The Richard Farr Lecture, The John C. Selner Aspen Allergy Conference:
"Mast cells in innate immunity"
Aspen, CO (July 19, 2017).

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| 2019 | Lectio Magistralis: *PhD Honoris Causa in Medicina Clinica e Sperimentale (Clinical and Experimental Medicine)*, University of Naples Federico II:<br>"Why do we have mast cells and IgE? Their roles in enhancing host defenses against venoms"<br>Naples, Italy (May 29, 2019). |

**Editorial Boards:**

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| 1980-1984 | Associate Editor, *The Journal of Immunology* |
| 1993-2011 | Advisory Editor, *The Journal of Experimental Medicine* |
| 1995-Present | Editorial Board, *Allergology International* |
| 1996-2001 | Editorial Board, *The Journal of Allergy and Clinical Immunology* |
| 1997-Present | Editorial Board, *Laboratory Investigation* |
| 2001-2013 | Transmitting Editor (2001-2009) then Associate Editor (2009-2013), *International Immunology* |
| 2004-Present<br>2004-Present<br>2006-2016 | *Annual Review of Pathology: Mechanisms of Disease*<br>Editorial Committee,<br>One of 3 Co-Editors (with Abul Abbas and Peter Howley [until 2015] or Jon Aster [after 2015]) |
| 2012-Present | Board of Consulting Editors, *Journal of Clinical Investigation* |
| 2015 | Co-Section Editor, with Donata Vercelli, of Allergy and hypersensitivity 2015: Never a dull moment, *Current Opinion in Immunology.* |

**Scientific Meetings Organized or Chaired:**

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| 1988 | Organizer and Co-Chairperson:<br>***Second International Conference on Mast Cell and Basophil Differentiation and Function in Health and Disease***, September 25-28, 1988, Nantucket, MA |
| 1991 | Chairperson and Co-Organizer:<br>***Stem Cell Factor and Mast Cells***, Closed meeting held on November 18, 1991, at AMGEN Inc., Thousand Oaks, CA |
| 1994 | Chairperson and Co-Organizer: |

***Effects of Stem Cell Factor on Mast Cell Biology***, Closed meeting supported by AMGEN Inc., February 9, 1994, Santa Monica, CA

1994 Member, Organizing Committee:
***International Conference: Biological and Molecular Aspects of Mast Cell and Basophil Differentiation and Function***, June 16-18, 1994, Hiroshima, Japan

1994 Co-Organizer (with Albert L. Sheffer):
***20th Symposium of the Collegium Internationale Allergologicum***, September 25-29, 1994, Nantucket, MA

1998 Member, Organizing Committee:
***Cold Spring Harbor Symposium: The Molecular Basis of Asthma: Fundamental Processes with Potential Genetic and Therapeutic Targets***; Chair, Session on IgE, March 29 - April 1, 1998, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

1999 Co-Organizer (with Fred Finkelman [Corresponding Co-Organizer], Robert Coffman and Joseph F. Urban, Jr.):
***1999 Keystone Symposium: Molecular and Cellular Biology of Type 2 Cytokines in Allergy and Helminth Infections.*** January 9-15, 1999, Lake Tahoe, CA

1999 Co-Organizer (with Gianni Marone and Lawrence M. Lichtenstein):
***International Conference: Mast Cells and Basophils in Physiology, Pathology and Host Defense***, March 4-6, 1999, *Accademia Nazionale dei Lincei*, Rome, Italy

2002 Co-Organizer (with Yukihiko Kitamura, Gianni Marone, Hiroshi Matsuda and Shoso Yamamoto):
***International Symposium "Biology of Mast Cells and Basophils"***, May 11-15, 2002, Osaka, Japan

2003 Chair:
***Novartis Foundation Symposium: Anaphylaxis***, February 24-27, 2003, and *Novartis Foundation Open Meeting: Anaphylaxis*, February 28, 2003, London, United Kingdom.

2004 Corresponding Co-Organizer (with Melissa A. Brown and K. Frank Austen):
***Keystone Symposium: Mast Cells in Physiology, Host Defense and Disease: Beyond IgE***, February 28-March 4, 2004, Taos, NM.

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| 2006 | Co-Chairperson (with Dean D. Metcalfe):<br>***NIH/NIAID. Food Allergy Research Expert Panel***, March 13-14, 2006, Rockville, MD. |
| 2006 | Co-Organizer (with Donata Vercelli [Corresponding Co-Organizer] and Paul B. Rothman):<br>***2006 Keystone Symposium: Allergy, Allergic Inflammation and Asthma***, April 6-11, 2006, Breckenridge, CO. |
| 2009 | Co-Organizer (with Catherine Hawrylowicz and Bart Lambrecht):<br>***2009 Keystone Symposium: Allergy and Asthma***, January 20-25, 2009, Keystone, CO. |
| 2011 | Co-Organizer (with Jeffrey Saffitz, Peter Tonellato, Mark Boguski, Dennis Wall, and James Crawford):<br>***The Future of Pathology in Personalized Medicine: A Stakeholder Summit***, May 23-24, 2011, Boston, MA. |
| 2012 | Co-Organizer (with You-Young Kim):<br>***29th Symposium of the Collegium Internationale Allergologicum***, October 14-19, 2012, Jeju Island, Republic of Korea |
| 2014 | Co-Organizer (with Bart Lambrecht)<br>***Cell-VIB-Symposia: The Multifaceted Roles of Type 2 Immunity***, December 11-12, 2014, Bruges, Belgium. |
| 2019 | Organizer<br>***65$^{th}$ Annual Meeting of the Pluto Club (The American Association of University Pathologists)***, March 9-10, Cartagena, Coumbia. |

**Patents:**

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| 1. | U.S. Patent No.: 5,244,902 Sept. 14, 1993 | “Topical application of spiperone or derivatives thereof for treatment of pathological conditions associated with immune responses” |
| 2. | U.S. Patent No.: 5,290,783 March 1, 1994 | “Use of spiperone derivatives as immunosuppressant agents” |
| 3. | U.S. Patent No.: 5,484,788 Jan. 16, 1996 | "Buspirone as a systemic immunosuppressant" |

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| 4. | U.S. Patent No.: 5,574,041 Nov. 12, 1996 | "Use of spiperone derivatives as immunosuppressant agents" (additional claims related to Patent No. 2., above) |
| 5. | U.S. Patent No.: 5,631,017 May 20, 1997 | "Topical application of buspirone for treatment of pathological conditions associated with immune responses" |
| 6. | U.S. Patent No.: 5,637,314 June 10, 1997 | "Topical and systemic application of buspirone or derivatives thereof for treating atopic dermatitis" |
| 7. | U.S. Patent No.: 5,637,616 June 10, 1997 | "Method for treating diseases mediated by proteases" |
| 8. | U.S. Patent No.: 5,639,758 June 17, 1997 | "Topical application of spiperone or derivatives thereof for treatment of pathological conditions associated with immune responses" (additional claims related to Patent No. 1., above) |
| 9. | U.S. Patent No.: 5,693,645 Dec. 2, 1997 | “Use of spiperone or spiperone derivatives as immunosuppressant agents” (additional claims related to Patent No. 2., above) |
| 10. | U.S. Patent No.: 5,703,088 Dec. 30, 1997 | “Topical application of spiperone or derivatives thereof for treatment of pathological conditions associated with immune responses" (additional claims related to Patents No. 1 and 8, above) |
| 11. | U.S. Patent No.: 5,965,707 Oct. 12, 1999 | “Rin2, a novel inhibitor of Ras-mediated signaling” |
| 12. | U.S. Patent No.: 6,500,942B1 Dec. 31, 2002 | “Rin2, a novel inhibitor of Ras-mediated signaling” |
| 13. | U.S. Patent No.: 7,365,239B2 April 29, 2008 | “In vivo models for RabGEF1-dependent signaling and functions” |
| 14. | U.S. Patent No.: 8,449,864 May 28, 2013 | “Neurotensin as a marker and therapeutic target for sepsis” |

**Major Committee Assignments:**

Harvard Medical School:

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| 1985-1999 | Committee on Immunology |
| 1996-1999 | Pathology Executive Committee |
| 1998-1999 | Subcommittee of Professors |

Beth Israel Hospital:

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| 1980-1991 | Chairperson, Institutional Animal Care and Use Committee |
| 1990-1996 | Trustee Committee on Patents and Technology Transfer |

Beth Israel Deaconess Medical Center:

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| 1996-1999 | Trustee Committee on Research and Technology Development |
| 1997-1999 | Research Council |

Stanford University:

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| 2000 | Co-Chair, School of Medicine Dean Search Committee |
| 2001-2006 | University Faculty Senate |
| 2004-2010 | Advisory Board to the Provost and President |
| 2004-2005 | Member |
| 2005-2006 | Secretary (Fall & Spring) & Vice Chair (Winter) |
| 2006-2007 | Chair |
| 2009-2010 | Member |
| 2012 | Chair, Committee to produce a White Paper on Guiding Principles for Clinical Laboratory Genomic and Other "Omics" Testing at Stanford University Medical Center |

Stanford University School of Medicine [SoM]:

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| 1999-2016 | Executive Committee |
| 1999-Present | Center for Clinical Immunology at Stanford (CCIS) and then, in 2005, Stanford Institute for Immunity, Transplantation and Infection Steering/Executive Committees |

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| 1999-2016 | Basic Science Chairs Committee |
| 1999-2016 | Clinical Chairs Committee |
| 2001-2002 | Chair, Medical Center Quality Assurance Review Committee (to make recommendations about QA and QI policies and processes for Stanford Hospital and Clinics [SHC] and Lucile Packard Children's Hospital [LPCH]) |
| 2009-2016 | Co-Director of the Stanford Center for Genomics and Personalized Medicine |
| 2010-2011 | Chair, Search Committee for the Chair of Medicine, Stanford Hospital & Clinics |
| 2016 | Fellow, Center for Innovation in Global Health |

UCSF Stanford Health Care South Campus (until dissolution of UCSF Stanford Health Care in 2000) and then Stanford University Medical Center:

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| 1999-2016 | Medical Board (now Medical Executive Committee), Stanford Hospital & Clinics |
| 2002-2016 | Council of Clinical Chairs for Stanford Hospital and Clinics [SHC] (Clinical Chairs, Dean of SoM, President and CEO of SHC and other leaders of SoM and SHC; replaced Internal Governing Council) |
| 2005 | Internal Executive Committee for SUMC's application for designation as an NCI-Comprehensive Cancer Center |
| 2010 | Member, Search Committee for the CEO of Stanford Hospital & Clinics |

**Visiting Appointments and Selected Travel Awards:**

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| April-May,1980 | Visiting Assistant Professor of Pathology, The First Department of Pathology, Kurume University School of Medicine, Kurume, Japan |
| 1985-1988 | National Science Foundation/Japan Society for the Promotion of Science Grant (to S.J. Galli and Y. Kitamura, Osaka University, Osaka, Japan) for collaborative work under the U.S.-Japan Cooperative Science Program |

**Advisory Boards:**

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| 2009-Present | Scientific Consultant, CK-CARE (Christine Kuhne Center for |

Allergy, Research and Education) (info@ck-care.ch; www.ck-care.ch)

2011-Present External Advisory Board, European Competence Network on Mastocytosis (ecnm.net)

2013-Present International Scientific Advisory Board, Molecular, Cellular and Clinical Allergology, MCCA, PhD program at the Medical University of Vienna, Vienna, Austria (http://www.phd-mcca.at)

**Peer Review Activities:**

National Institutes of Health (NIH):

1988-1994 NIH Pathology B Study Section
Ad Hoc Member (1988-1990)
Chartered Member (1990-1994)

1994-Present NIH Reviewers Reserve

1999-2001 NIH/NIAID Hyper-ID (Hyperaccelerated Award/Mechanisms in Immune Disease Trials) Scientific Review Group
Member (1999-2001)
Chair (1999-2001)

2000 NIH/NIAID Extramural Asthma and Allergy Research Program Review Expert Panel, Member

2006 External Consultant for review of the NIH Intramural Research Program at the Trans-NIH Research Initiatives Retreat, July 31, 2006, National Conference Center, Lansdowne, Virginia

2011 *Ad hoc* member of the Board of Scientific Counselors for the review of intramural research programs at NIAMS/NIH

2014-2018 Member, National Allergy and Infectious Diseases Council of the NIH (Nov. 1, 2014 – Oct. 31, 2018)

2015-2016 Chairperson, NIAID Asthma and Allergic Diseases Cooperative Research Centers Steering Committee

2015 *Ad hoc* member of the Board of Scientific Counselors for the Review Meeting for the Division of Intramural Research, in NIAID//NIH

2018 *Ad hoc* member of the Board of Scientific Counselors for the Review Meeting for the Division of Intramural Research, in NIAID//NIH, Rocky Mountain Laboratories, Hamilton, MT.

Other:

2000 External Review of the Department of Pathology at the University of Michigan (with Fred Sanfilippo)

2000 External Review of the Department of Pathology at Johns Hopkins University

2002 External Review of the Department of Pathology at the University of Southern California (with Nelson Fausto and Mark Tykocinski)

2002 External Review of the Department of Pathology at Beth Israel Deaconess Medical Center (Harvard Medical School) (with Peter Ward)

2005 External Review of the Department of Pathology at Mt. Sinai School of Medicine (with George K. Michalopoulos and Mark Tykocinski)

2009 Harvard Medical School Dean's Advisory Committee on Quad Reorganization re: Microbiology, Pathology and Immunology

2009 External Review of the Department of Pathology at the Brigham and Women's Hospital (Harvard Medical School) (with L. Maximilian Buja, and Mark L. Tykocinski)

2015 External Review of the Department of Pathology at Boston Children's Hospital (Harvard Medical School) (with James Versalovic)

**Teaching and Education Experience:**

Beth Israel Hospital:

1987 Established a "Post-Sophomore Fellowship in Pathology" program permitting 3rd or 4th year medical students to train in clinical and experimental pathology during a one-year fellowship in the Beth Israel Hospital Department of Pathology

Harvard Medical School (HMS) & Harvard University Faculty of Arts and Sciences:

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| 1979 | Laboratory Instructor, General Pathology Course, HMS |
| 1980-1982;1984 | One of the Head Laboratory Instructors, General Pathology Course, HMS |
| 1983-1986 | One of the organizers and main lecturers of the Harvard University Faculty of Arts and Sciences Course, Pathology 205: "Mechanisms of Disease," given at HMS with the support of the Macy Foundation |
| 1984-1999 | New Pathway in General Medical Education, HMS, Human Biology-II (Identity and Defense Course): Member, Curriculum Design Group and Operating Group; Author, 3 cases for Identity, Microbes, and Defense; Organizer and Instructor, Pathology Laboratory Sessions (1984-1987); Lecturer, Identity, Microbes, and Defense Course (1988-1995) and Immunology, Microbiology & Infectious Diseases Course (1996-1999) (required courses for year I students at HMS) |
| 1991-1995 | Subcommittee for Planning the Pathology and Immunology Courses for the Harvard-Markey Biomedical Scientist Program, and Lecturer in the Harvard-Markey Immunology Course (Immunology 222, Faculty of Arts and Sciences) |
| 1992-1999 | Lecturer, Harvard-M.I.T. Health Sciences and Technology Program, Molecular and Cellular Immunology Course (HST-175) |
| 1995-1999 | Director, Pathology Course at HMS (Pathology IN714.0, required course for year II students at HMS) |
| 1996-1999 | Committee on Years I and II of the Curriculum at HMS |
| 1996-1999 | Lecturer, Harvard University Division of Medical Sciences Course, Principles of Immunology (Immunology 201) |

Stanford University School of Medicine:

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| 1999-2016 | As Chair of the Department of Pathology, and Director of the Pathology Residency Program, I initiated or helped to establish: |

A Post-Sophomore Fellowship Program in Pathology, which permits 3rd or 4th year medical students to train in clinical and experimental pathology for one year in the Department of Pathology (founded by Drs. Yasodha Natkunam and John Higgins);

A "research track" pathology residency program for the training of physician-scientists, in which up to 3 years of departmental support is provided for post-residency research training with any suitable mentor at Stanford University (in the Schools of Medicine, Engineering or Humanities and Sciences);

A Clinical Pathology residency program (in addition to the existing programs in Anatomic Pathology and Anatomic and Clinical Pathology);

New ACGME-accredited clinical fellowships in Molecular Genetic Pathology, Cytopathology, Transfusion Medicine, Women's Health (which was later split into: Gynecological Pathology and Breast Pathology), Clinical Microbiology, and Bioinformatics (jointly with the Department of Pediatrics) (founded and directed by Drs. Iris Schrijver, Christina Kong, Lawrence T. ["Tim"] Goodnough, Teri Longacre, Teri Longacre, Kimberly Allison and Niaz Banaei, respectively) and Bioinformatics (jointly with the Department of Pediatrics) (first led, for Pathology, by Brent Tan) and;

The Stanford Society of Physician Scholars (SSPS). This program was established at my suggestion in 2009 (with the first scholars inducted in 2010), and with the support of all of the chairs of the clinical departments at Stanford University School of Medicine, by a group led by the Stanford University School of Medicine Senior Associate Dean for Education, Dr. Charles Prober, with the assistance of Dr. Robert S. Ohgami (who initially proposed this idea to me when he was a resident in our research track, and who served as the initial Associate Director of the SSPS). The SSPS is a Stanford University Medical Center-wide program to foster the career development and mentoring of physician-scholars drawn from the ranks of residents and clinical fellows in the training programs at Stanford University Medical Center. In addition to being mentored in their own careers, each scholar also

participates in the mentoring of a Stanford medical student whose interests are complementary to those of the scholar.

| | |
|---|---|
| 2000-2015 | Lecturer (Hypersensitivity and Allergy I and II), Immunology for Medical Students Course (Immunology 205/M&I 205) |
| 2004-2007 | Lecturer, Graduate Student Advanced Immunology Course (Immunology 200/M&I 200/Pathology 220) |
| 2007-Present | Lecturer, Graduate Student Advanced Immunology II Course "Controversies in Immunology" (Immunology 202/MCP 202) |
| 2007, 2008 | Lecturer, Pathogenesis Course (M&I 210) |

Other:

| | |
|---|---|
| 1969-1970 | Medical Student Member of the Committee for the Design of the Three Year M.D. Program at Dartmouth Medical School |
| 1995-Present | The Cambridge School of Weston (A progressive, coeducational, private high school in Weston, Mass.) |
| 1995-2003 | Board of Trustees |
| 2003-Present | Honorary Trustee |

**Major Research Interests:**

1. Mast cell and basophil development and function
2. Allergy/Immunology
3. Inflammation, particularly allergic inflammation
4. Allergic disorders (e.g., asthma, anaphylaxis, food allergy and atopic dermatitis)

**Research Funding:**

**Ongoing Research Support**

**NIH/NIAID U19AI104209** **Galli (PI)** **~01/31/19-01/30/24**
(dates will be finalized after the government shut-down)

*Integrated Genomic and Functional Studies of Immunotherapy for Multi-Food Allergy*

The major goals of this U19 are to conduct a large placebo-controlled, randomized, phase 2 clinical trial of oral immunotherapy (OIT) with and without omalizumab and/or dupilumab in children with multi-food allergy (but who have peanut allergy) and to determine how key immune system parameters are altered during OIT, and which are most predictive of the nature and durability of patient responses to the therapy. In addition, we seek to define immune monitoring parameters that can be rapidly performed in a clinical laboratory to predict the

clinical reactivity in food allergy subjects and to determine whether blocking IgE and IL-4/IL-13 can improve the safety and efficacy of OIT protocols.
Role-PI of entire grant and RI of Project 4.

**United States-Israel Binational Science Foundation (Grant 2017182) 10/01/18-09/30/22**
**Galli (Investigator, with Ronit Sagi-Eisenberg)**
*Elucidating the roles of the small GTPase Rab5 in regulating mast cell secretory granule biogenesis and compound exocytosis*
The major goal is to identify the molecular mechanisms by which Rab networks regulate the genesis and exocytosis of mast cell secretory granules.

**NIH/NIAMS R01 AR067145 Galli (PI) 06/01/15-05/31/20**
*RabGEF1 in MyD88 signaling, skin immunity, and atopic dermatitis*
The long-term goal of this project is to understand how the dysregulation of certain keratinocyte functions, by altering the cells' interactions with the skin microbiome, can impair epidermal barrier function, leading to features resembling those of atopic dermatitis and the development of high serum levels of IgE. In the current project, we propose to elucidate the mechanisms by which RabGEF1 importantly regulates keratinocyte responses that are activated by MyD88-mediated signals and how malfunction in RabGEF1/MyD88 pathways in keratinocytes can result in the development of atopic dermatitis-like disease in mice.

**NIH/NIAID R01 AI125567-01A1 Boyd (PI) 02/01/17-01/31/22**
*Functional analysis of pathogenic and protective peanut allergen-specific human antibodies*
This project will use allergen-specific human antibodies from peanut allergic patients, primary human mast cells and peanut allergens to evaluate mechanisms of allergic sensitization and responses to immunotherapy. The findings in this human experimental system should be directly relevant for understanding clinical peanut allergy, predicting severe reactions, and prioritizing strategies for improving therapies.
**Role: Co-Investigator**

**NIH/NIAID R01 AI32494 Galli (PI) 06/01/17-05/31/22**
*Role of nociceptive sensory neuron/mast cell interactions in cutaneous allergic inflammation*
This project seeks to identify the molecular mechanisms underlying the development of atopic dermatitis (AD), and to determine whether interactions between sensory nerves and mast cells in the skin both contribute to the pathology of AD and represent a potential new therapeutic target in this disorder.

**Tobacco-Related Disease Research Program (U. of California) SPO 127515 Galli (PI) 07/01/17-06/30/19**
*An IFN-gamma/mast cell axis in THS-exacerbated allergic airway inflammation*
The goals are to define the extent to which a major component of third hand smoke can promote the development of airway hypersensitivity and inflammation in mice and to assess the activation of mast cells by IFN-$\gamma$ can influence this process.

**<u>Recently Completed Research Support</u>**

**NIH U19 AI 104209 Galli (PI) 02/01/13-01/31/19**
*Integrated genomic and functional studies of tolerance therapy for peanut allergy*

The major goals of this NIAID Asthma and Allergic Diseases Cooperative Research Center were to conduct a large placebo-controlled, randomized, phase 2 clinical trial of oral immunotherapy (OIT) in children and adults with severe peanut allergy and to determine how key immune system parameters are altered during OIT, and which are most predictive of the nature and durability of patient responses to this therapy. We also sought to define the immune mechanisms underlying allergen specific desensitization or tolerance in this setting and to identify immune monitoring parameters that can be performed in a clinical laboratory to predict the clinical reactivity to peanut in peanut allergy subjects in order to improve the safety and efficacy of OIT protocols. I also was the Leader of Project 4 (*Basophil phenotype and activation in peanut allergy and oral immunotherapy*) and the Administrative Core. (No cost extension from 01/31/18 to 01/31/19)
Role-PI of entire grant and RI of Project 4.

**United States-Israel Binational Science Foundation (Grant 2013263) 10/01/14-09/30/18**
**Galli (Investigator, with Ronit Sagi-Eisenberg & Ilan Hammel** [now deceased]**)**
*ICOB: Mast cell exocytosis as a paradigm for the evolution of organismal host defense mechanisms*
The major goal is to identify the molecular mechanisms by which Rab networks regulate the genesis and exocytosis of mast cell secretory granules.

**NIH/NIAID/AADCRC IOF (SPO 115724) Nadeau (PI) 08/01/14-07/31/16 (Subaward # 157252)**
*Integrated Epi/genomic and Functional Studies of Clinical Tolerance in Anti-IgE/Multiple Food Oral Immunotherapy*
Role: PI for Parent Grant (U19AI104209)
The overall objective of this project was to improve our understanding of the mechanisms that underlie the 'immune tolerance' (i.e., sustained unresponsiveness to antigen) induced in patients with multiple food allergies who are treated with both anti-IgE and oral immunotherapy (OIT).

**Tobacco-Related Disease Research Program (U. of California) Galli (PI) 08/01/12-07/31/15**
*Third hand smoke and hypersensitivity*
The major goals were to define the extent to which a major component of third hand smoke can promote the development of airway hypersensitivity and inflammation in mice and to assess the contribution of mast cells to this process.

**Food Allergy Initiative Nadeau (PI) 07/01/12-06/30/15**
*Multiple food allergen oral immunotherapy study*
The primary goal was to assess the effectiveness of oral immunotherapy (OIT) when given for multiple food allergens simultaneously. This enabled us to address the critical clinical need for treatment for patients with multiple food allergies. Our second goal was to investigate the cellular and molecular mechanisms of multi-allergen OIT, identifying features of the immune response that are biologically important for improving efficacy, increasing safety margins, and achieving more durable results.
Role: Co-Investigator

**NIH/NIAID (SPO 111395) Galli (PI) 07/01/13-03/31/15**

*Tools for Deep Phenotypic and Functional Analysis of Healthy Human Basophil and Eosinophil Granulocytes*

The purpose of this project was to use state of the art single cell technologies, i.e., CyTOF mass cytometry, to provide a baseline analysis of normal basophils and eosinophils.

**NIH U19 AI 104209-01S1 Galli (PI) 07/01/13-01/31/15**

*Integrated genomic and functional studies of tolerance therapy for peanut allergy* (Diversity Supplement)

This diversity supplement for U19 AI 104209 aimed to understand in detail the molecular mechanisms underlying the clinical phenomenon of desensitization using normal and informative transgenic mice.

**NIH R37 AI23990 Galli (PI) 02/01/06-01/31/12**

*Regulation of mast cell development and function*

The major goals of this project were to elucidate the roles of RabGEF1 (previously known as Rin2/Rabex-5) and related molecules in the regulation of mast cell development and function.

**NIH R01 AI070813 Galli (PI) 08/01/06-07/31/12**

*Expression & modulation of mast cell function in asthma.*

The major goals were to define the mechanisms by which mast cells can enhance the acute and chronic features of asthma, as observed in mouse models of allergic inflammation of the airways, including aspects of the airway inflammation, remodeling and functional changes associated with these models.

**NIH R01 CA072074 Galli (PI) 09/22/06-07/31/12**

*Role of mast cells in inflammation and immunity*.

The major goals were to define the mechanisms by which mast cells can modulate T cell proliferation and function and to define, using mouse models of contact hypersensitivity, the mechanisms by which mast cells can either promote or limit multiple features of T cell-dependent immune reactions *in vivo*.

**Lectures (since 2001):**

**2001**

Mast cells.
Multidisciplinary Program in Immunology, Stanford University School of Medicine, January 9, 2001. Stanford, CA.

Defining (and manipulating) the roles of mast cells in health and disease.
Wyeth Genetics Institute, May 4, 2001. Andover, MA.

Mast cells in acquired and innate immune responses: Clarification of functions and identification of therapeutic opportunities.
University of Ulm, May 16, 2001. Ulm, Germany.

Mast cells.

Frontiers in Allergy and Autoimmunity Symposium, May 18, 2001. Mainz, Germany.

Understanding the roles of mast cells in biological responses in vivo: New approaches and therapeutic opportunities.
Aventis, June 4, 2001. Bridgewater, NJ.

Mast cells.
The 3rd Triennial World Asthma Meeting, July 14, 2001. Chicago, IL.

Mast cells as sentinels of innate and acquired immunity.
11th International Congress of Immunology, July 27, 2001. Stockholm, Sweden.

Mast cells in health and disease: New approaches and current understanding.
Istituto di Neurobiologia, November 12, 2001. Rome, Italy.

Embryonic stem cell-derived mast cells and cDNA microarray analysis: New approaches for the analysis of mast cell development, signal transduction, and function.
4th International Workshop on Signal Transduction in the Activation and Development of Mast Cells and Basophils, November 27, 2001. Bethesda, MD.

Analyzing mast cell functions in the skin and in other sites: Genetic and embryonic stem cell-based approaches.
26th Meeting of the Japanese Society of Contact Dermatitis, December 8, 2001. Osaka, Japan.

**2002**

Understanding the roles of mast cells in health and disease.
UCB Research, Inc., February 1, 2002. Cambridge, MA.

The role of mast cells in asthma.
5th International Congress on Pediatric Pulmonology (CIPP V), February 19, 2002. Nice, France.

Mast cells: Central amplifiers of innate and acquired immune responses,
Rheumatology and Medical Grand Rounds Seminar, and Mast cells, Innate Immunity Course Lecture. University of Alabama at Birmingham, February 28, 2002. Birmingham, AL.

Mast cells as critical amplifiers of innate and acquired immune responses in health and disease.
Benjamin Burrows Lung Immunology Seminar Series, Respiratory Sciences Center, University of Arizona, March 28, 2002. Tucson, AZ.

Progress in the elucidation of mast cell development and function: New approaches, new insights.
International Symposium: “Biology of Mast Cells and Basophils”, Osaka University Medical School, May 12, 2002. Osaka, Japan.

Mast cells as sentinels and effectors of innate immunity.
Aegean Conferences: 2nd Innate Immunity Workshop, May 28, 2002. Mykonos, Greece.

Mouse models for the investigation of mast cell function in vivo.
International Congress on Cardiomyopathies and Heart Failure, May 31, 2002. Kyoto, Japan.

Mast cells in health and disease: Critical amplifier of acquired and innate immune responses.
2nd Annual Meeting of the Federation of Clinical Immunology Societies, June 30, 2002. San Francisco, CA.

Mast cells as effectors and amplifiers of asthma and other innate and acquired immune responses.
Alberta Heritage Foundation for Medical Research Sponsored Lecture, Department of Medical Microbiology and Immunology, University of Alberta, November 20, 2002. Edmonton, Alberta, Canada.

Mast cells as effector cells and amplifiers of asthma and other acquired or innate immune responses.
Faculty of Medicine, Health Sciences Center, University of Calgary, November 21, 2002. Calgary, Alberta, Canada.

Proven and potential roles of mast cells in the initiation, amplification, and perpetuation of allergic inflammation.
Kyowa Hakko Symposium, December 14, 2002. Tokyo, Japan.

**2003**

Mast cells in innate immunity. Session 2704, Innate Immunity: Overlooked Aspects in Allergy; and Roles of mast cells in innate and acquired immunity.
Presidential Symposium, American Academy of Allergy, Asthma and Immunology 60th Anniversary Meeting, March 8, 2003. Denver, CO.

Development and function of mast cells.
De naturali immunitate: Nuove Concezioni sull'Immunita Naturale, May 23, 2003. Naples, Italy.

Mast cells derived from embryonic stem cells: A model for studying the effects of genetic manipulation on mast cell development and function *in vitro* and *in vivo*.
Asthma VI: Asthma and Allergic Diseases, May 25, 2003. Ischia, Italy.

Mast cells as amplifiers of innate and acquired immunity: Beyond immediate hypersensitivity.
British Society of Immunology Annual Congress 2003, December 3, 2003. London, England.

The roles of mast cells in health and disease: New models, new concepts.
Institute of Experimental Immunology, December 8, 2003. Zurich, Switzerland.

**2004**

Mast cell reconstitution of genetically mast-cell-deficient c-*kit* mutant mice as a model for investigating mast cell biology *in vivo*: Insights into the roles of mast cells in health and disease.
Keystone Symposium: Mast Cells in Physiology, Host Defense and Disease: Beyond IgE, February 29, 2004. Taos, NM.

The Jerry Dolovich Memorial Lecture: The expanding circle of mast cell activity in innate immunity, allergy, autoimmunity & fibrosis.
Annual Meeting of the American Academy of Allergy, Asthma and Immunology, March 21, 2004. San Francisco, CA.

IgE and mast cell survival, growth, phenotype & function (what does *antigen* have to do with it?).
Workshop – Q&A, Session #5813. American Academy of Allergy Asthma and Immunology 2004 Annual Meeting, March 23, 2004. San Francisco, CA.

Mouse models of anaphylaxis: How could they contribute to anaphylaxis management?
NIH and FAAN Symposium on the Definition and Management of Anaphylaxis, April 30, 2004. Bethesda, MD.

2004 Ishizaka Lecture: Mast cells: Elucidating their roles in physiology, host defense and disease – IgE and beyond.
La Jolla Institute for Allergy & Immunology, May 20, 2004. San Diego, CA.

Mast cells as “master” regulators of inflammation and tissue remodeling:
Insights into the roles of the cell in health and disease.
Celera Genomics, June 14, 2004. South San Francisco, CA.

Three new developments in mast cell biology: Effects of IgE in the absence of known antigen and mast cells as enhancers of T cell and dendritic cell functions.
12th International Congress of Immunology and 4th Annual Conference of the Federation of Clinical Immunology Societies, 23, 2004. Montreal, Quebec.

Research challenges.
Association of Pathology Chairs Annual Meeting, July 24, 2004. Mont Tremblant, Quebec, Canada.

New insights into the role of mast cells in innate and acquired immune responses.
Aegean Conference: 3rd International Conference on Innate Immunity, October 11, 2004. Crete, Greece.

Mast cells as versatile regulators of innate and acquired immune responses: New insights.

Department of Asthma, Allergy and Respiratory Science, GKT School of Medicine, King's College London, Guy's Hospital, October 15, 2004. London, England.

RabGEF1, a negative regulator of Ras signaling, mast cell activation and skin inflammation.
Novartis Horsham Research Center, October 18, 2004. Horsham, England.

Panel Discussion: Best practices: Recruiting and retaining top notch faculty, West/Midwest Association of Pathology Chairs/PDAS Regional Meeting, October 29, 2004. Santa Fe, NM.

Elucidating the roles of mast cells in physiology, host defense and disease: IgE and beyond.
Genentech, Inc., November 8, 2004. South San Francisco, CA.

RabGEF1, a negative regulator of Ras signalling, mast cell activation and skin inflammation.
Novartis Foundation Symposium 271 on Mast cells and basophils: development, activation and roles in allergic/autoimmune disease, November 17, 2004. London, England.

Mast cells as effector and potential immunoregulatory cells in acquired immune responses.
Millennium Pharmaceuticals, November 30, 2004. Cambridge, MA.

Priming of mast cells.
Zaum (Zentrum Allergie und Umwelt) 4th Symposium on Environmental Allergy and Allergotoxicology: Enhancers and Protectors in Allergy, December 10, 2004. Munich, Germany.

**2005**

Diverse potential roles of mast cells in the development and expression of adaptive immune responses.
The Bat-Sheva de Rothschild and the Israel Science Foundation International Workshop on Mast Cell Signalling and Function in Health and Disease, February 7, 2005. Eilat, Israel.

Mast cells as versatile effector and immunoregulatory cells in health and disease.
Dartmouth Medical School, April 18, 2005. Lebanon, NH.

Mast cells as effector and potential immunoregulatory cells in acquired immune responses.
FOCiS: Federation of Clinical Immunology Societies, May 15, 2005. Boston, MA.

Mast cells as effector and immunoregulatory cells: New insights into their positive and negative regulation.

UCSF Immunology Program Seminar Series, University of California at San Francisco, June 6, 2005. San Francisco, CA.

Pathology of anaphylaxis.
The XIXth World Allergy Organization Congress, July 1, 2005. Munich, Germany.

New insights into the positive and negative regulation of mast cell function.
Mast Cells in Health and Disease – Allergy and Beyond, Nobel Forum, Karolinska Institutet, September 16, 2005. Stockholm, Sweden.

Beyond allergy: Roles of mast cells in health and disease.
Amgen Inc., November 11, 2005. Thousand Oaks, CA.

**2006**

The contributions of mast cells to health and disease: Beyond IgE.
University of Washington, February 13, 2006. Seattle, WA.

44th Robert Cooke Memorial Lecture: Animal models of anaphylaxis: Why are they important?
Annual Meeting of the American Academy of Allergy, Asthma and Immunology, May 5, 2006. Miami, FL.

Probing the expression of mast cell function in health and disease: New models and new insights.
University of Toronto, March 7, 2006. Toronto, Ontario, Canada.

Mast cells: Versatile effector and immunoregulatory cells in health and disease.
American Society for Investigative Pathology Presidential Symposium, EB2006 Conference, April 3, 2006. San Francisco, CA.

Mast cells: "Tunable" regulators of acute, late phase and chronic components of allergic inflammation.
Keystone Symposium: Allergy, Allergic Inflammation and Asthma, April 10, 2006. Breckenridge, CO.

RabGEF1 is a negative regulator of Ras signaling and FcεRI- or c-*Kit*-dependent activation in mast cells *in vitro*, and of mast cell-dependent biological responses *in vivo*.
Collegium Internationale Allergologicum, 26th Symposium, May 9, 2006. St. Julian's, Malta.

Mastzellen: New insights into their origin and function.
The Mysteries of Mast Cells Symposium, Charité - Universitätsmedizin Berlin, May 12, 2006. Berlin, Germany.

Mast cells: Versatile effector and potential immunoregulatory cells in health and disease.

RCAI-JSI International Symposium on Immunology 2006: Regulation of Immune Responses in Allergy and Inflammation, June 18, 2006. Yokohama, Japan.

Roles of mast cells in inflammation, tissue remodeling and regulation of homeostasis.
Department of Immune Regulation, Tokyo Medical and Dental University, June 19, 2006. Tokyo, Japan.

One hundred years of allergy and anaphylaxis: The evolution of our understanding of the mast cell's roles.
The Clemens von Pirquet Symposium, December 8, 2006. Vienna, Austria.

**2007**

Mast cells in innate and acquired immunity: The evolution of our understanding of the mast cell's roles.
ST*AR Program, Annual Meeting of the American Academy of Allergy, Asthma and Immunology, February 23, 2007. San Diego, CA.

The TNF-T cell-mast cell axis.
Symposium 4305, TNF-$\alpha$ in Inflammation and Asthma, Annual Meeting of the American Academy of Allergy, Asthma and Immunology, February 26, 2007. San Diego, CA.

2007 Maud L. Menten Lecture: Mast cells: Important regulators of inflammation, tissue remodeling and host defense.
Department of Pathology, University of Pittsburgh, March 14, 2007. Pittsburgh, PA.

2007 Stowell Lecture: New insights into the roles of mast cells in health and disease.
Department of Pathology, University of California at Davis, March 20, 2007. Davis, CA.

2007 Tanioku Kihei Memorial Lecture: Mast cells: Versatile regulators of inflammation, tissue remodeling, host defense and homeostasis.
32nd Annual Meeting of the Japanese Society for Investigative Dermatology, April 20, 2007. Yokohama, Japan.

Mast cells, epithelial chemokines & cAMP-specific phosphodiesterases.
Scientific Symposium D85: 10 SCOR Years in Asthma. American Thoracic Society: ATS 2007, May 23, 2007. San Francisco, CA.

IgE signaling, receptor interactions & up-regulation, with emphasis on the roles of mast cells in IgE-dependent immune responses *in vivo.*
Asthma and Allergy - From Mechanisms to Biomarkers and Therapeutic Targets. MRC & Asthma UK Centre in Allergic Mechanisms of Asthma, King's College London, Guy's Campus, September 19, 2007. London, England.

Negative regulation of innate and acquired immune responses by mast cells.
Symposium on Mast Cells in Health and Disease, September 21, 2007. Trieste, Italy.

Mast cells in health & disease: tunable effector and immunoregulatory cells.

National Neurological Institute "Carlo Besta", September 24, 2007. Milan Italy.

Mast cells as positive and negative regulators of inflammation.
Digestive Disease Center Retreat, Stanford University, September 29, 2007. Stanford, CA.

Unexpected, but important, beneficial roles for mast cells.
Stanford Immunology Program Seminar Series, Stanford University, October 2, 2007. Stanford, CA.

The mast cell paradox: Mast cells as positive and negative regulators of inflammation and immunity.
Pathology Research Day, Department of Pathology, University of Iowa, October 9, 2007. Iowa City, IA.

Mast cells in the promotion and limitation of innate and acquired immune responses.
*Nature* Colloquia in Biomedicine: Villa Grazioli Colloquium I: Inflammation, October 22, 2007. Rome, Italy.

Limitation of the pathology associated with innate or acquired immune responses by mast cells.
Division of Allergy-Immunology, Northwestern University Feinberg School of Medicine, November 9, 2007. Chicago, IL.

Immunoregulatory roles of mast cells.
XX World Allergy Congress 2007, December 3, 2007. Bangkok, Thailand.

**2008**

Mast cells in innate and acquired immune responses.
Keynote lecture in Basic Immunology Research in Skin Allergy and Immunotherapy, 6th EAACI-GA$^2$ Davos Meeting, February 1, 2008. Pichl/Schladming, Austria.

Allergic disease.
Federation of Clinical Immunology Societies (FOCiS) Advanced Course in Basic & Clinical Immunology, March 1, 2008. Scottsdale, AZ.

Anti-inflammatory and immunosuppressive functions of mast cells.
La Jolla Institute for Allergy and Immunology, April 4, 2008. La Jolla, CA.

Mast cells: Positive and negative regulators of inflammation in health and disease.
A Day of Inflammation Biology, The Salk Institute, May 9, 2008. La Jolla, CA.

Anti-inflammatory and immunosuppressive roles for mast cells.
Antigen Recognition at Mucosal Surfaces: Implications for Allergic, Inflammatory and Immunologic Diseases, Society for Mucosal Immunology, American Academy of Allergy, Asthma & Immunology and Crohn's & Colitis Foundation of America (SMI-AAAAI-CCFA), June 5, 2008. Boston, MA.

Mast cell-dependent limitation of pathology associated with innate and acquired immune responses.
Mast cells, Basophils & Eosinophils in Inflammatory Diseases, 8th Annual Meeting of the Federation of Clinical Immunology Societies (FOCiS), June 6, 2008. Boston, MA.

Anti-inflammatory and immunosuppressive functions of mast cells.
NIAID Symposium - The United States National Institute of Allergy and Infectious Diseases - Mast Cells, XXVII EAACI Congress, June 8, 2008. Barcelona, Spain.

Mast cells can reduce skin inflammation and pathology during contact hypersensitivity and after ultraviolet B irradiation.
The Mast Cell Network: Towards Systems Biology of Allergic and Inflammatory Diseases. The 6th Mast Cell Workshop at the Institute for Advanced Studies at the Hebrew University of Jerusalem, October 10, 2008. Jerusalem, Israel.

Mast cells as regulators of inflammation and tissue remodeling: Insights into the roles of the cell in health and disease.
Hanson Institute, December 1, 2008. Adelaide, South Australia.

Mast cells enhance host defense through effects in innate and adaptive immunity.
Symposium on Immune Regulation at the 38th Annual Scientific Meeting of the Australasian Society for Immunology (ASI), December 10, 2008. Canberra, Australia.

Mast cells as versatile effector and potential immunoregulatory cells in health and disease.
St. George Hospital, University of New South Wales, December 12, 2008. Kogarah, NSW, Australia.

**2009**

Mast cells and tissue remodeling.
Keystone Symposium: Allergy and Asthma, January 23, 2009. Keystone, CO.

Mast cell activation in health and disease.
Zaum (Zentrum Allergie und Umwelt) 6th Symposium on Environmental Allergy and Allergotoxicology: Climate Change and Allergy, January 30, 2009. Munich, Germany.

Mast cells as positive and negative regulators of inflammation, immunity and tissue remodeling.
Department of Dermatology and Allergy, Charité Universitätsmedizin Berlin, February 2, 2009. Berlin, Germany.

Allergic disease.
Federation of Clinical Immunology Societies (FOCiS) Advanced Course in Basic & Clinical Immunology, February 21, 2009. Scottsdale, AZ.

Mast cells as negative regulators of immune responses.

American Academy of Allergy, Asthma & Immunology (AAAAI) 65th Annual Meeting, March 13, 2009. Washington, DC.

Mast cells can be good guys too: Beneficial roles in innate and adaptive immunity.
American Academy of Allergy, Asthma & Immunology (AAAAI) 65th Annual Meeting, March 16, 2009. Washington, DC.

2009 BABA Memorial Lecture: The mast cell paradox: Mast cells as positive and negative regulators of inflammation, immunity and tissue remodeling.
Department of Pathology, Ohio State University, April 14, 2009. Columbus, OH.

Contributions of mast cells to innate immunity.
Innate Immunity Course, Department of Microbiology Graduate Program, University of Alabama at Birmingham, April 16, 2009. Birmingham, AL.

Mast cells as positive and negative regulators of adaptive immunity and tissue remodeling.
Department of Microbiology and Physiology, University of Alabama at Birmingham, April 17, 2009. Birmingham, AL.

Mast cells as positive and negative regulators of innate and adaptive immunity, and tissue remodeling.
Department of Microbiology and Immunology, Virginia Commonwealth University, April 21, 2009. Richmond, VA.

Mast cells as negative regulators of host immune responses.
NIAID/DAIT NIH Workshop, Mast Cells in Inflammation, Infection and Adjuvant Development, June 2, 2009. Bethesda, MD.

Novel roles of mast cells in immunity.
FASEB Summer Research Conference: Signal Transduction in the Immune System, June 22, 2009. Snowmass, CO.

The mast cell paradox: Mast cells as positive and negative regulators of inflammation, immunity and tissue remodeling.
Committee on Immunology, Biomedical Sciences Cluster, University of Chicago, November 2, 2009. Chicago, IL.

**2010**

Mast cells as negative regulators of innate and adaptive immune responses.
Inflammation 2010: Inflammatory cell signaling mechanisms as therapeutic targets. Organized by Recherches Scientifiques Luxembourg, January 28, 2010. New Conference Center Kirchberg (NCCK), Luxembourg.

Approaches for understanding the roles of mast cells in health and disease.
Institute for Research in Biomedicine (IRB), Ph.D. Lecture Course 2009-2010, February 3, 2010. Bellinzona, Switzerland.

Allergic disease.
Federation of Clinical Immunology Societies (FOCiS) Advanced Course in Basic & Clinical Immunology, February 26, 2010. Scottsdale, AZ.

Mast cells as negative regulators of T cell-dependent immune responses.
American Academy of Allergy, Asthma & Immunology (AAAAI) 66th Annual Meeting, March 2, 2010. New Orleans, LA.

Mast cells in inflammation and immune regulation.
2010 World Immune Regulation Meeting IV: Innate and Adaptive Immunoregulatory Mechanisms, March 29, 2010. Davos, Switzerland.

Mast cell-derived TNF can exacerbate mortality during severe bacterial infections in C57BL/6-*Kit*$^{W\text{-}sh/W\text{-}sh}$ mice.
Collegium Internationale Allergologicum, 28th Symposium, April 26, 2010. Ischia, Italy.

Mast cells as negative regulators of innate and adaptive immune responses.
In Major Symposium: New Insights into Mast Cell Function, Immunology 2010, 97th Annual Meeting of the American Association of Immunologists, May 9, 2010. Baltimore, MD.

Mast cells as positive and negative regulators of innate and acquired immunity.
14th International Congress of Immunology**:** Immunology in the 21st Century – Defeating Infection, Autoimmunity, Allergy and Cancer, August 26, 2010. Kobe, Japan.

What are mast cells good for? Assessing their roles in disease and health.
Keynote Address, Harvard Medical School Department of Pathology Annual Retreat, November 1, 2010. Boston, MA.

Mast cells as negative regulators of innate and acquired immunity.
Plenary Session II, Canadian Society of Allergy and Clinical Immunology (CSACI) Annual Scientific Meeting, November 5, 2010. Victoria, British Columbia, Canada.

Mast cells.
2010 Pittsburgh International Lung Conference: Understanding the Interface Between Asthma, Host Defense and Mucosal Immunity, December 11, 2010. Pittsburgh, PA.

**2011**

Does it make a difference? Impact in publishing.
Careers in Pathology Investigation Course, United States and Canadian Academy of Pathology (USCAP), February 28, 2011. San Antonio, TX.

Allergic disease.
Federation of Clinical Immunology Societies (FOCiS) Advanced Course in Basic & Clinical Immunology, March 5, 2011. Scottsdale, AZ.

Mast cells as regulators of the immune response: Lessons learned from mast cell-deficient mice.
American Academy of Allergy, Asthma & Immunology (AAAAI) 67th Annual Meeting, March 18, 2011. San Francisco, CA.

Mast cells at the interface of health and disease.
Inflammation and Disease Symposium, American Society for Investigative Pathology (ASIP) Annual Meeting at Experimental Biology 2011, April 12, 2011. Washington, DC.

Mast cells as master cells in health and disease.
Workshop, Mast cells and mastocytosis, Medical University of Vienna, June 15, 2011. Vienna, Austria.

The mast cell paradox: Understanding the contributions of mast cells in health and disease.
Frank Nelson Distinguished Lecturer Series in Biotechnology, Montana State University, September 6, 2011. Montana State University, Bozeman, MT.

The mast cell paradox: Mast cells at the interface of health and disease.
Department of Pathology and Immunology Training Program, Boston University School of Medicine, September 14, 2011. Boston, MA.

Mast cells can limit the toxicity of endogenous peptides and reptile and arthropod venoms (and introducing “Hello *Kit*ty mice”).
Department of Immune Regulation, Tokyo Medical and Dental University Graduate School, November 9, 2011. Tokyo, Japan.

An interferon-γ/mast cell axis in a mouse model of chronic asthma.
61st Annual Meeting of the Japanese Society of Allergology, Grand Prince Hotel New Takanawa, November 10, 2011. Tokyo, Japan.

Mast cells can limit the toxicity of endogenous peptides and reptile and arthropod venoms.
The Institute of Medical Science, The University of Tokyo, November 11, 2011. Tokyo, Japan.

The mast cell paradox: From homeostasis to anaphylaxis.
61st Annual Meeting of the Japanese Society of Allergology, Grand Prince Hotel, New Takanawa, November 12, 2011. Tokyo, Japan.

Mast cells as regulators and effectors.
XXII World Allergy Congress. Biennial Scientific Meeting of the World Allergy Organization, December 5, 2011. Cancun, Mexico.

**2012**

Allergic disease.

Federation of Clinical Immunology Societies (FOCiS) Advanced Course in Basic & Clinical Immunology, February 29, 2012. Scottsdale, AZ.

The Jerry Dolovich Memorial Lectureship: Pathophysiology of anaphylaxis: New concepts.
Annual Meeting of the American Academy of Allergy, Asthma and Immunology, March 5, 2012. Orlando, FL.

The mast cell paradox: Understanding the roles of mast cells in disease & host defense.
Seattle Children's Research Institute, July 30, 2012. Seattle, WA.

Evidence of positive and negative regulation of inflammation by mast cells.
17th International Inflammation Research Association Conference, September 9, 2012. Bolton Landing, NY.

The 6th David G. Marsh Fellowship Lecture in Allergy & Clinical Immunology: Using mouse models to understand the roles of mast cells in asthma: Advantages and potential pitfalls.
Division of Allergy and Clinical Immunology, Johns Hopkins University School of Medicine, November 7, 2012. Baltimore, MD.

The mast cell paradox: Mast cells in health, host defense and disease.
W. Harry Feinstone Department of Molecular Microbiology and Immunology and the Division of Infectious Disease Seminar Series, Johns Hopkins University, November 8, 2012. Baltimore, MD.

Mast cells in host defense against envenomation.
Keynote Lecture: EMBRN-COST international Mast Cell and Basophil Meeting, November 26, 2012. Berlin, Germany.

Mast cells and the pathogenesis of asthma.
Keynote Lecture: American College of Veterinary Pathologists (ACVP), Annual Meeting, December 3, 2012. Seattle, WA.

**2013**

Mast cells as first responders to reptile and arthropod venoms (is this an origin of allergy?).
Immunology Program Seminar Series, Stanford University, January 22, 2013. Stanford, CA.

Mast cells as components of host defense against envenomation by arthropods and reptiles.
Third Annual Chairs' Lectureship: The Department of Pathology & Genomic Medicine Grand Rounds, The Methodist Hospital System, February 5, 2013. Houston, TX.

New insights into the contributions of mast cells to immune and inflammatory responses through new strains of mast cell-deficient mice.

Annual Meeting of the American Academy of Allergy, Asthma & Immunology (AAAAI), February 26, 2013. San Francisco, CA.

Allergic disease.
Federation of Clinical Immunology Societies (FOCiS) Advanced Course in Basic & Clinical Immunology, February 27, 2013. Scottsdale, AZ.

Figuring out the roles of mast cells in asthma.
Allergy and Asthma 2013, May 23, 2013. Bruges, Belgium.

When bad cells turn good: Mast cells in host defense against venoms.
SIAF Symposium: Novel Developments in Allergy 2013, the Swiss Institute of Allergy and Asthma Research (SIAF), June 19, 2013. Davos, Switzerland.

Mast cells in host defense against venoms and toxic peptides.
Lead lecture in the conference: Mast cells: host defense or offence?
Organized by the Fondazione IRCCS Istituto Neurologico “C. Besta” & Fondazione IRCCS Istituto Nazionale Tumori, at the National Neurological Institute "Carlo Besta", June 21, 2013. Milan, Italy.

Roles of mast cells (and "allergic responses") in enhancing host resistance to venoms.
Paul-Ehrlich-Institut Colloquium, August 21, 2013. Langen, Germany.

Roles of mast cells and IgE in enhancing innate and acquired host resistance to venoms.
15th International Congress of Immunology: Immunitas vis Naturae, August 27, 2013. Milan, Italy.

Roles of mast cells and IgE in enhancing innate and acquired host resistance to toxic endogenous peptides and venoms.
AMGEN Inc., November 5, 2013. Seattle, WA.

Personalized/precision medicine: Opportunities and challenges.
Keynote Lecture: World Allergy Organization Symposium on Immunotherapy and Biologics, December 14, 2013. Chicago, IL.

**2014**

Testing Profet’s “toxin hypothesis of allergy”: Mast cells and IgE in innate and acquired resistance to venoms.
Lectures in Life Sciences Seminar: Feinberg School of Medicine, Northwestern University, April 8, 2014. Chicago, IL.

ASIP Rous-Whipple Award Lecture: The mast cell-IgE paradox: From homeostasis to anaphylaxis.
American Society for Investigative Pathology Annual Meeting at Experimental Biology 2014, April 27, 2014. San Diego, CA.

Carl Prausnitz Memorial Lecture: Contributions of mast cells and IgE to innate and acquired resistance to venoms: *Is this the "good side" of allergy?*
Collegium Internationale Allergologicum, 30th Symposium, September 16, 2014. Petersberg, Germany.

Roles of mast cells and Th2 responses in enhancing host resistance to venoms: Is this an origin of allergy?
2014 Joint Meeting of the Society for Leukocyte Biology and International Endotoxin and Innate Immunity Society, October 25, 2014. Salt Lake City, UT.

Testing the “toxin hypothesis of allergy”: Roles of mast cells and IgE in innate and acquired resistance to venoms.
Keynote Lecture: 2014 Annual Meeting of the Austrian Society of Allergology and Immunology, November 7, 2014. Salzburg, Austria.

The US landscape: Precision medicine: Building a knowledge network for biomedical research and a new taxonomy of disease.
Science Europe Workshop: How to transform Big Data into better health: Envisioning a Health Big Data Ecosystem for advancing biomedical research and improving health outcomes in Europe, November 24, 2014. Erice, Sicily, Italy.

Testing the “toxin hypothesis of allergy”: Roles of mast cells and IgE in innate and acquired resistance to venoms.
Cell-VIB-Symposia: The Multifaceted Roles of Type 2 Immunity, December 11, 2014. Bruges, Belgium.

**2015**

Beyond worms: Understanding the evolutionary roles of IgE and Th2 immunity.
Annual Meeting of the American Academy of Allergy, Asthma & Immunology (AAAAI), February 23, 2015. Houston, TX.

A "good side" of allergy: Roles of mast cells and IgE in enhancing innate and acquired host resistance to toxic endogenous peptides and venoms.
Genentech, Inc., March 2, 2015. South San Francisco, CA.

Visiting Professor for the Annual Dr. Jordan Fink Lecture Series:
Medical College of Wisconsin, Milwaukee, WI, (May 7-8, 2015).
Mast cells and asthma: Insights from studies in mice.
Pediatrics Grand Rounds, May 8, 2015.
The "toxin hypothesis" of allergy: Mast cells and IgE in host defense against venoms
Allergy Grand Rounds, May 8, 2015.

Contributions of mast cells and IgE to innate and acquired resistance to venoms: Is this a “good side” of allergy?
64th Annual Meeting of Japanese Society of Allergology, Grand Prince Hotel New Takanawa, May 27, 2015. Tokyo, Japan.

Mast cells as master regulators of tissue inflammation and remodeling.
European Academy of Allergy and Clinical Immunology (EAACI) Congress 2015, June 8, 2015. Barcelona, Spain.

The role of mast cells in asthma pathology: Insights from mouse models of asthma.
University of California, Davis. Lung Research Day, June 19, 2015. Davis, CA.

Origin and physiologic roles of mast cells.
Workshop: Mast Cells and Mastocytosis – In Memoriam Paul Ehrlich (1854-1915)
Medical University of Vienna, August 21, 2015. Vienna, Austria.

Are there beneficial roles of allergy and anaphylaxis? Mast cells and IgE in innate and acquired host resistance to venoms.
Keynote Lecture: 10th Symposium on Specific Allergy (SOSA), Hotel Ergife Palace, November 19, 2015. Rome, Italy.

Mastzellen: From their description by Paul Ehrlich to the identification of their roles in the "good side" of allergy.
Paul Ehrlich Symposium (on the centenary of his death), Paul-Ehrlich-Institut, November 23, 2015. Langen, Germany.

Why do we have mast cells? Beneficial roles of mast cells in regulating levels of endogenous peptides and during innate and acquired immune responses to venoms.
23rd Scientific Meeting 2015, FRT – Fondation René Touraine
December 4, 2015. Paris, France.

**2016**

What good are mast cells and IgE? They can enhance survival during innate and acquired host responses to venoms.
Symposium for the 50th Anniversary of IgE Discovery,
65th Annual Meeting of Japanese Society of Allergology, Tokyo International Forum, June 19, 2016. Tokyo, Japan.

Why do we have mast cells?
Endowed Chairs Seminar Series, University of Calgary, June 24, 2016. Calgary, Alberta, Canada.

Beneficial roles of mast cells and IgE during innate and acquired immune responses to venoms.
FASEB Conference: "IgE and Allergy, 50 Years and Onward", July 26, 2016. West Palm Beach, FL.

Figuring out what mast cells do (and how they do it).
University of Melbourne dinner conference: “Mast cells in Melbourne”, August 22. 2016. Melbourne, Victoria, Australia.

Mast cells and IgE can enhance innate and acquired host defenses against venoms.

Murdoch Childrens Research Institute, The Royal Children's Hospital, August 23. 2016. Parkville, Victoria, Australia.

Why do we have mast cells and IgE? Roles in enhancing host defenses against venoms.
Plenary Lecture: International Congress of Immunology 2016, August 25, 2016. Melbourne, Australia.

Mast cells and IgE can enhance survival during innate and acquired host responses to venoms.
129th Meeting of the American Clinical and Climatological Association (ACCA), Omni Homestead Resort, October 22, 2016. Hot Springs, VA.

Why do we have mast cells and IgE? Roles in enhancing host defenses against venoms.
Hyogo College of Medicine, December 2, 2016. Nishinomiya, Hyogo, Japan.

The roles of mast cells and IgE in innate and acquired host defense against venoms.
45th Annual Meeting of the Japanese Society for Immunology, Okinawa Convention Center, December 5, 2016. Okinawa, Japan.

What good are mast cells and IgE? Roles in enhancing host defenses against venoms.
First Annual MERU-Roon Lecture: The Scripps Research Institute, December 12, 2016. La Jolla, CA.

**2017**

Beneficial roles of mast cells and IgE during innate and acquired immune responses to venoms. Is this the "good side" of allergy?
Centre for Microvascular Research, William Harvey Research Institute, April 7, 2017. London, England.

Beneficial roles of mast cells and IgE: Enhancing innate and acquired resistance to venoms.
Pathology Seminar Series, Department of Pathology, University of New Mexico, May 4, 2017. Albuquerque, NM.

Why do we have mast cells? Figuring out what mast cells do (and how they do it).
Keynote Lecture: International EMBRN (European Mast Cell and Basophil Research Network) Meeting, Institute of Molecular Genetics (IMG), the Czech Academy of Sciences, May 26, 2017. Prague, Czech Republic.

Seeing allergy and anaphylaxis through the lens of evolution: Roles of mast cells and IgE in innate and adaptive defenses against venoms.
Harvard Digestive Disease Center Seminar Series, June 15, 2017. Boston, MA.

Mast cells and innate immunity.

The Richard Farr Lecture: The John C. Selner Aspen Allergy Conference, Hotel Jerome, July 19, 2017. Aspen, CO.

Mast cells and IgE can enhance innate and acquired immune defenses against venoms. Is this a "good side" of allergy?
Department of Microbiology and Immunobiology Seminar Series, Harvard Medical School, September 26, 2017. Boston, MA.

Opportunities for pathology in the move toward precision medicine and health: A personal perspective.
Western, Midwest and Regional Meeting of the Association of Pathology Chairs, October 20, 2017. Tiburon, CA.

**2018**

Deciphering the roles of mast cells and basophils in food allergy and anaphylaxis.
Gordon Research Conference on Food Allergy, January 10, 2018. Ventura, CA.

Potential regulatory roles of mast cells.
Plenary Lecture: World Immune Regulation Meeting-XII, March 17, 2018. Davos, Switzerland.

Some of the roles of mast cells in health and disease: Defense against venoms and limiting tissue damage in cutaneous contact hypersensitivity.
Distinguished Lecturer Seminar Series, National Jewish Health, April 4, 2018. Denver, CO.

Mast cells: Primary, secondary, or redundant roles in immunity (Is there a "good side" of allergy?).
Plenary Lecture: FOCIS (Federation of Clinical Immunology Societies) 2018, June 23, 2018. San Francisco, CA.

When, why and how to transition from the chair.
Moderator and discussant: Association of Pathology Chairs 2018, July 16, 2018.

Mast cells and IgE in enhancing innate and acquired immune defenses against venoms. Is this a "good side" of allergy?
16th Annual Meeting of the ECNM (European Competence Network on Mastocytosis), October 11, 2018, Salerno, Italy.

Seeing allergy and anaphylaxis through an evolutionary lens: Roles of mast cells and IgE in innate and adaptive defenses against venoms.
Plenary Lecture: 8th Asia Pacific International Congress of Anatomists (APICA), October 30, 2018. BEXCO, Busan, Republic of Korea.

Mast cells and IgE in host defense against venoms.
Special Lecture: Chonbuk National University (CBNU) Medical School, October 31, 2018. Jeonju City, Jeollabuk-do, Republic of Korea.

**2019**

Mast cells and IgE can enhance innate and acquired immune defenses against venoms. Is this a “good side” of allergy?
Immunology Graduate Program at the University of Kentucky, February 5, 2019. Lexington, Kentucky.

The “good side” of allergy: Mast cells and IgE in host defense against venoms.
Department of XXXXXXXXXXXXXXXX, Faculty of XXXXXX, University of Toulouse, February 18. 2019. Toulouse, France.

Mast cells and IgE in host defenses against venoms. Is this the “good side” of allergy?
Department of Pharmaceutical Sciences, Faculty of Science, Utrecht University, February 20, 2019. Utrecht, The Netherlands.

Benefits of mast cells and IgE during innate and acquired immune responses to venoms. Is this the “good side” of allergy.
Opening Keynote: Cell-VIB-Symposia: Type 2 Immunity in Homeostasis and Disease, February 21, 2018. Bruges, Belgium.

Investigating the critical roles of cells and IgE in innate and adaptive defenses against venoms.
Nordic Foundation of Immunology Lecture: Scandinavian Society for Immunology 45th Annual Meeting and Spring School of Immunology, April 4, 2019. Geilo, Norway.

The mast cell-IgE paradox, from homeostasis to anaphylaxis.
Opening Keynote: Allergy School on Insect Venom Allergy and Mastocytosis, EAACI, April 11, 2019. UMCG – The University Medical Center Groningen, Groningen, The Netherlands.

Mast cells as sentinels of innate immunity.
American Initiative in Mast Cell Diseases (AIM) Investigator Conference, May 4, 2019. Stanford, CA.

Biology and roles of mast cells - The beauty & the beast.
Classification and Management of Mast Cell Neoplasms in Dogs and Humans: A Comparative Oncology Approach, May 17, 2019. Vienna, Austria

Why do we have mast cells and IgE? Their roles in enhancing host defenses against venoms.
Lectio Magistralis: *PhD Honoris Causa in Medicina Clinica e Sperimentale (Clinical and Experimental Medicine)*, University of Naples Federico II, May 28, 2019. Naples, Italy.

Mast cells: evidence for an ancient role in host defense.
Biological Therapies in Medicine, May 29, 2019. Ischia (Naples), Italy.

In memoriam: Henry Metzger and his contributions to our understanding of allergies (with some thoughts about future research)
Keynote lecture: FASEB Summer Conference on IgE and Allergy, July 7, 2019. Scottsdale, AZ.

Mast cells and IgE in health and disease.
Special lecture: EMBRN 2019 Meeting, XXXXX, 2019.

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The surface antigenicity of serially transplantable malignant human lymphoid cells derived from subjects with infectious mononucleosis, Hodgkin's disease, chronic lymphatic leukemia, or acute lymphoblastic leukemia.
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Metabolic studies of guinea pig basophilic leukocytes in short-term tissue culture. I. Measurement of histamine-synthesizing capacity by using an isotopic-thin layer chromatographic assay.
J Immunol 1976; **117**:1085-92. PMID: 977943.

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Malignant fibrous histiocytoma and pleomorphic sarcoma in association with medullary bone infarcts.
Cancer 1978; **41**:607-19. PMID: 204409.

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Sulfated glycosaminoglycans of guinea pig basophilic leukocytes.
J Immunol 1978; **121**:586-92. PMID: 681751.

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Preparation of a rabbit anti-guinea pig basophil serum: *in vitro* and *in vivo* characterization.
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Tumor-basophil interactions *in vitro* - a scanning and transmission electron microscopic study.

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Based on the abstract presentation of this work by Martin Metz at the 2014 meeting of the German Arbeitsgemeinschaft Dermatologische Forschun (ADF [German Association for Dermatological Research]), Thomas Marichal and Philipp Starkl received the ADF/ECARF-Award for European Allergy Research, which is sponsored by the European Centre for Allergy Research Foundation (ECARF). Based in part on the work he did on this project, Thomas Marichal was awarded the 2015 Acteria Early Career Research Prize in Allergology by the European Federation of Research Societies.

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