**JOSEPH A. BELLANTI, MD**
**CURRICULUM VITAE**

| **NAME** | **POSITION TITLE** |
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| Joseph A. Bellanti, MD | Professor of Pediatrics & Microbiology-Immunology, Director, International Center for Interdisciplinary Studies of Immunology (ICISI) |
| **eRA COMMONS USERNAME** JBELLANTI | |

**EDUCATION/TRAINING/CURRENT LOCATION**

| INSTITUTION AND LOCATION | DEGREE | YEAR(s) | FIELD OF STUDY |
|---|---|---|---|
| University of Buffalo, Buffalo, NY | N/A | 1951-54 | Chemistry |
| University of Buffalo School of Medicine, Buffalo, NY | MD | 1954-58 | Medicine |
| Georgetown University School of Medicine | DSci | 1963- | Pediatrics, Microbiology, Immunology |

**A. Personal Statement**

Dr. Bellanti is Professor of Pediatrics and Microbiology-Immunology, *emeritus,* and Director of the International Center for Interdisciplinary Studies of Immunology (ICISI) at Georgetown University Medical Center, Washington, DC. He received his MD degree from the University of Buffalo, followed by residency training in pediatrics at the Children's Hospital of Buffalo, post-doctoral training in developmental immunology at the University of Florida School of Medicine, Gainesville, Florida, and viral immunology at Walter Reed Army Institute of Research (WRAIR), Washington, DC. Dr. Bellanti's research team has directed their investigative efforts to antimicrobial research, evaluation of new vaccine strategies and developmental immunology. This work resulted in the initial characterization of the IgM response of the newborn, the identification of the antiviral role of secretory IgA in respiratory secretions and the cellular immune responses to viral infections following immunization or natural infection. He is the recipient of numerous awards and honors, including the prestigious E. Mead Johnson Award for Research in Pediatrics, for outstanding scientific contributions, the Humanitarian Award from the American College of Allergists, the Distinguished Medical Alumnus Award from the State University of Buffalo, New York and the Founder's Day Award of Georgetown University School of Medicine. He is also the recipient of Honoris Causa degrees from the University of Palermo, Italy, Georgetown University and the CEA Universidad San Pablo, Madrid, Spain. Dr. Bellanti has also held numerous leadership positions in national and international organizations including President, Society for Pediatric Research, President, American Board of Allergy and Immunology, President, INTERASMA, President, the American College of Allergy, Asthma and Immunology (ACAAI), President, the Association of Medical Laboratory Immunologists (AMLI), and President, the American Association of Certified Allergists (ACA). Other roles include Editor-in-Chief of several journals including Pediatric Research, Annals of Allergy, Asthma & Immunology, and Allergy and Asthma Proceedings. He has published over 500 scientific articles and abstracts, as well as numerous textbook chapters including the 4th edition of his widely acclaimed textbook in immunology, ***Immunology IV: Clinical Applications in Health and Disease*** which is also available in a Spanish edition, ***"INMUNOLOGÍA IV: Aplicaciones Clínicas en Salud y Enfermedad".***

**B. Positions and Honors**

**Positions**

1958-1959 Rotating Medical Internship, Millard Fillmore Hospital, Buffalo NY
1959-1961 Pediatric Residency, Children's Hospital of Buffalo, Buffalo NY
1961-1962 Instructor & Fellow in Immunology, University of Florida Medical School, Gainesville FL
1962-1965 Research Scientist, Virology-Immunology, Walter Reed Army Inst Res, Washington DC
1963-1967 Assistant Professor of Pediatrics & Microbiology, Georgetown University Medical School
1967-1970 Associate Professor of Pediatrics & Microbiology, Georgetown University Medical School 1970-
1970- Professor of Pediatrics & Microbiology, Georgetown University Medical School
1975- Director, International Center for Interdisciplinary Studies of Immunology
1980-1990 Director, Division of Immunology/Virology, Department Laboratory Medicine
1970-1998 Chief Division of Allergy-Immunology
1998- present, Professor (emeritus) of Pediatrics and Microbiology-Immunology, and Director, International Center for Interdisciplinary Studies of Immunology (ICISI)

**Honors**

1954 Phi Beta Kappa
1970 Recipient of the *E. Mead Johnson Award for Outstanding Contributions in Pediatric Research*
1972 Recipient of the William B. Peck Outstanding Educators of America Award
1974 Recipient of the Humanitarian Award of the ACAAI
1978 Recipient of the Bela Schick Award of the ACAAI
1990 Recipient of the ACAAI Masters in Allergy Award
1998 Recipient of the Distinguished Medical Alumnus Award, University of Buffalo School of Medicine
2002 Recipient of the ACAAI Gold Headed Cane Award
2012 Recipient of the Founders Day Award, Georgetown University School of Medicine

2013 Recipient of the Distinguished Service Award of the Dept of Pediatrics, Georgetown University School of Medicine
Recipient of ***Honoris Causa*** degrees from the University of Palermo, Italy, **(1992),** Georgetown University **(2006)** and the CEA Universidad San Pablo, Madrid, Spain **(2015)**.

**Editorships**
1975-1983 Editor-in-Chief, *Pediatric Research*
1982-1990 Editor-in-Chief, *Annals of Allergy, Asthma & Immunology*
2004- Editor-in-Chief *Allergy Asthma Proceedings*
2023- Associate Editor, *Pediatric Respiratory Journal*

**Other Experience and Professional Memberships**
1970-1975 Member, Maternal and Child Health Committee (MCHC), NICHD, NIH
1975- Fellow, American College of Allergy, Asthma, Immunology (ACAAI)
1975- Fellow, American Academy Allergy, Asthma, Immunology (AAAAI)
1975-1980 Member, Board of Directors, American Board of Allergy and Immunology
1975-1980 Member, Allergy and Immunology Research Committee (AIRC), NIAID, NIH
1980- Member of the Society for Pediatric Research (SPR) and American Pediatric Society (APS)
1980 President, ***Society for Pediatric Research (SPR)***
1985 President, ***the Association of Medical Laboratory Immunologists (AMLI),***
1987-1990 President, ***InterAsma***
1991-1992 President, American College Allergy Asthma Immunology (ACAAI)

**C. Contribution to Science and Selected Peer-reviewed Publications** (Selected from over 300 publications)
All publications are available in PubMed at the following URL:
**https://pubmed.ncbi.nlm.nih.gov/?term=Bellanti%20J%5BAuthor%5D&sort=pubdate&sort_order=asc&size=200**

**1. Early Immunology Publications in Developmental Immunology**

I began my early career in the field of developmental immunology, studying the developmental aspects of the antibody immune response in the neonatal and infancy periods. In these early studies, the formation of flagellar antibody responses of newborn rabbits immunized with Salmonella vaccines occurred usually by the 7th to 10th day and were characterized primarily by 19S (now IgM) antibody, with the 7S (now IgG) antibodies not appearing until the 4th or 5th week of life. In contrast, the adult animals produced macroglobulin antibodies for only 3 to 5 days before the lower molecular weight variety appeared. These data were the earliest descriptions of the predominance of IgM responses in the neonate and were followed by studies of infants born with congenital rubella syndrome (CRS), which recapitulated the IgM predominance seen in the neonatal period. These studies have since seen clinical translation and have supported the diagnostic use of IgM neonatal screening for intrauterine fetal infection, which is now commonly used.

As we continued our studies on developmental immunity, we next focused on the developmental maturational aspects of the alveolar macrophage, a crucial component of the pulmonary immune defense system. In a series of seminal studies, we examined the perinatal influx of alveolar macrophages into the lungs, their ultrastructural differentiation, and the subsequent development of their biochemical, enzymatic, and functional capacities.

1. **Bellanti JA, Eitzman DV, Robbins JB, Smith RT.** The development of the immune response: Studies on the agglutinin response to Salmonella flagellar antigens in the newborn rabbit. *J Exp Med*. 1963;117:479-96.
2. **Wainer A, Robbins J, Bellanti JA, Eitzman DV, Smith RT.** Synthesis of gamma-globulin in the newborn rabbit. *Nature*. 1963;198:487-8.
3. **Bellanti JA, Artenstein MS, Olson LC, Buescher EL, Luhrs CE, Milstead KL.** Congenital rubella: Clinicopathologic, virologic, and immunologic studies. *Am J Dis Child*. 1965;110:464-72.
4. **Zeligs BJ, Nerurkar LS, Bellanti JA, Zeligs JD.** Maturation of the rabbit alveolar macrophage during animal development. I. Perinatal influx into alveoli and ultrastructural differentiation. *Pediatr Res*. 1977;11(3 Pt 1):197-208.
5. **Nerurkar LS, Zeligs BJ, Bellanti JA.** Maturation of the rabbit alveolar macrophage during animal development. II. Biochemical and enzymatic studies. *Pediatr Res*. 1977;11(12):1202-7.
6. **Zeligs BJ, Nerurkar LS, Bellanti JA.** Maturation of the rabbit alveolar macrophage during animal development. III. Phagocytic and bactericidal functions. *Pediatr Res*. 1977;11(12):1208-11.

**2. Contributions in the field of mucosal immunology**

These studies laid the foundations for later work in the field of mucosal immunology which led to the seminal discovery of secretory IgA antibody and its protective role in antiviral immunity. These studies have seen clinical translation and clinical application of development of vaccines deliverable by mucosal routes.

1. Artenstein MS, Bellanti JA, Buescher EL. Identification of the antiviral substances in nasal secretions. Proc Soc Exp Biol Med. 1964; 117:558-6.

2. Bellanti JA, Artenstein Ms, Buescher El. Characterization of virus neutralizing in human serum and nasal secretions. J Immunol. 1965; 94:344-51.
3. Smith CB, Purcell RH, Bellanti JA, Chanock RM. Protective effect of antibody to parainfluenza type 1 virus. N Engl J Med. 1966;27):1145-52.
4. Bellanti JA, Sanga RL, Klutinis B, Brandt B, Artenstein MS. Antibody responses in serum and nasal secretions of children immunized with inactivated and attenuated measles-virus vaccines. N Engl J Med. 1969;280:628-33.

**3. Contributions in the field of cell-mediated immunity to viral infection or following immunization with viral vaccines**

In this next phase of our studies, we began to define the complexities of cell-mediated immune responses to viral infection or following immunization with viral vaccines. These contributions have found clinical application in studies of the pathogenic sequelae of autoimmune diseases.

1. Labowskie R, Edelman R, Rustigian R, Bellanti JA. Studies of cell-mediated immunity to measles virus by in vitro lymphocyte-mediated cytotoxicity. J Infect Dis. 1974; 129:233-9.
2. Steele RW, Hensen SA, Vincent MM, Fuccillo DA, Bellanti JA. Development of specific cellular and humoral immune responses in children immunized with live rubella virus vaccine. J Infect Dis. 1974;130:449-53.
3. Rola-Pleszczynski M, Hurtado RC, Woody JN, Sell KW, Vincent MM, Hensen SA, Bellanti JA. Identification of the cell population involved in viral-specific cell-mediated cytotoxicity in man: evidence for T cell specificity. J Immunol. 1975 Jul;115:239-42.
   Rola-Pleszczynski M, Frenkel LD, Fuccillo DA, Hensen SA, Vincent MM, Reynolds DW, Stagno S, Bellanti JA. Specific impairment of cell-mediated immunity in mothers of infants with congenital infection due to cytomegalovirus. J Infect Dis. 1977;135:386-91.

**4. Contributions in translational studies bridging epigenetic mechanisms with immunologically mediated diseases; allergic, autoimmune diseases**

In the most recent phase of our studies, a major investigative effort of our research is being directed to the study of epigenetic mechanisms that regulate gene expression related to Treg function in the control of the allergic and autoimmune diseases. Unmethylated oligonucleotides (ODNs) have been classically developed to stimulate responses as adjuvants. Our current research has found that methylated CpG ODN motifs have the capacity to stimulate Treg cells and offer a potentially new clinical application for the treatment of allergic and autoimmune diseases both of which, have diminished Treg cell populations. Our most recent findings have shown that although most bacteria of the GI microbiome display unmethylated ODN moieties, ODN motifs derived from genomic DNA of Bifidobacterium longum subsp. infantis were found to have potent in vitro and in vivo Treg-inducing capacity. Our current research is directed to exploring the molecular mechanisms by which DNA methylation directs the pathways of Treg induction.

1. Bellanti JA. Genetics/epigenetics/allergy: The gun is loaded … but what pulls the trigger? Allergy Asthma Proc. 2019;40:76-83.
2. Lawless OJ, Bellanti JA, Brown ML, Sandberg K, Umans JG, Zhou L, Chen W, Wang J, Wang K, Zheng SG. In vitro induction of T regulatory cells by a methylated CpG DNA sequence in humans: Potential therapeutic applications in allergic and autoimmune diseases. Allergy Asthma Proc. 2018;39:143-152.
3. Li D, Cheng J, Zhu Z, Catalfamo M, Goerlitz D, Lawless OJ, Tallon L, Sadzewicz L, Calderone R, Bellanti JA. Treg-inducing capacity of genomic DNA of *Bifidobacterium longum* subsp. *infantis.* Allergy Asthma Proc. 2020;41:372-385.
4. Li D, Sorkhabi S, Cruz I, Foley PL, Bellanti JA. Studies of Methylated CpG ODN from *Bifidobacterium longum* subsp. *infantis* in a Murine Allergy Model: Implications for Treatment of Human Allergic Disease. Allergy Asthma Proc. 2025 (In press).
5. Li D, Cruz I, Sorkhabi S, Foley P, Benitez C, Claros J, Wagner J, Patil D, Kroemer A, Calderone R, Bellanti JA. In vivo T reg Activation by methylated CpG ODN of *Bifidobacterium longum* subsp. *infantis. 2025 (In preparation for submission)*