



- Associate Professor
- Department of Biomedical Research
- Department of Medicine
- Division of Allergy & Clinical Immunology (1)

Conditions Treated:

Research Areas:

- Basic Immunology
- Cellular and Molecular Biology

Programs & Services:

- Division of Allergy and Clinical Immunology (Adult)
- Asthma Treatment Program (Adult)
- Department of Medicine
- Department of Biomedical Research

Research Interests

Our laboratory studies the early life origins of asthma. A proportion of patients with asthma develops symptoms of their disease very early in life, sometimes in its first year. Genetic factors are contributory but fail to fully explain it. It is therefore increasingly recognized that development of early-life asthma is driven in substantial part by environmental exposures that are encountered by infants after birth and, indirectly, by exposures encountered by their mothers, in association with pregnancy and breastfeeding. Our laboratory is focused on maternal exposures, trying to delineate how they lead to asthma in offspring. The goals are to define maternal information that is gained and transmitted to offspring or lost and not transferred to offspring, elucidate routes of information transfer (placenta, breast milk, gametes), and delineate cells and pathways that are affected in offspring (cells and molecules of the immune system are of particular interest). The translational goals are to identify early-life biomarkers of predisposition to asthma in humans and define molecular targets for development of preventive drugs. To accomplish these goals, the laboratory uses mouse models, blood samples from young children with high risk of developing asthma (API+), and a variety of immunological, signaling, transcriptomics and epigenetic approaches.

Education

1999 Medical University of Lodz, Poland, MD
2007 Medical University of Lodz, Poland, PhD
2010 Medical University of Lodz, Poland, Habilitation degree

Fellowship

1999 - 2002 University of Texas Medical Branch, Galveston, TX, Postdoctoral Fellowship
2002 - 2004 National Jewish Health, Denver, CO, Postdoctoral Fellowship

Teaching or Professional Positions

Associate Professor, Department of Medicine, Division of Allergy and Clinical Immunology, National Jewish Health

Affiliations with the University of Colorado Denver

Associate Professor, Department of Medicine, Division of Allergy and Clinical Immunology,
National Jewish Health

Professional Memberships

American Academy of Asthma, Allergy, and Immunology
American Association of Immunologists
Collegium Internationale Allergologicum

Awards & Recognition

2015-2019: 1R01HL122995-01A1
2015: National Jewish Health Outstanding Scientific Achievement Award
2014-2015: Biomedical Research Grant, American Lung Association
2012-2013: Faculty Development Investigator Award, Denver Children's Environmental Health Center (NIEHS PO1 ES-018181 and EPA GAD 834515010)
2012: Invited speaker, Presidential Plenary Session, Annual Meeting of the American Academy of Asthma, Allergy and Immunology
2011-2014: KL2 Research Scholar Award, Colorado Clinical and Translational Sciences (NIH, KL2 TR001080)
2011-2013: Sheldon C. Siegel Investigator Grant Award, Asthma and Allergy Foundation of America
2011: Pilot grant, Basic Science Section of the Department of Medicine at National Jewish Health
2010-2011: Junior Faculty Pilot Award, Colorado Clinical and Translational Sciences Institute (NIH, UL1 TR001082)
2009: Invited speaker, Annual Meeting of the European Academy of Allergy and Clinical Immunology
2005-2006: Interest Section Award, American Academy of Asthma, Allergy and Immunology
2000-2002: James W. McLaughlin Award, University of Texas
1998-1999: Ministry of Health Scholarship, Poland
1996: European Union Tempus Scholarship, Nijmegen University Hospital, Holland
1993-1998: Lodz Medical University Scholarship, Poland
1992-1993: Polish Children Fund Scholarship, Poland

Publications

Verma M, Liu S, Michalec L, Sripada A, Gorska MM, Alam R. Experimental asthma persists in IL-33 receptor knockout mice because of the emergence of thymic stromal lymphopoietin-driven IL-9+ and IL-13+ type 2 innate lymphoid cell subpopulations. *J Allergy Clin Immunol.* 2018 Sep;142(3):793-803.e8.

Lenberg J, Qian Q, Sun Z, Alam R, Gorska MM. Pre-pregnancy exposure to diesel exhaust predisposes offspring to asthma through IL-1 β and IL-17A. *J Allergy Clin Immunol.* 2018 Mar;141(3):1118-1122.e3.

Liu S, Verma M, Michalec L, Liu W, Sripada A, Rollins D, Good J, Ito Y, Chu H, Gorska MM, Martin RJ, Alam R. Steroid resistance of airway type 2 innate lymphoid cells from patients with severe asthma: The role of thymic stromal lymphopoietin. *J Allergy Clin Immunol.* 2018 Jan;141(1):257-268.e6.

Doctor's Contact Information

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Locations

National Jewish Health Main Campus
1400 Jackson St.

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