

# Curriculum Vitae and Bibliography

## Matthew Alexander Rank, MD

### 1. Personal Information

### 2. Present Academic Rank and Position

<b>Consultant</b> - Division of Allergy, Asthma, and Clinical Immunology, Department of Internal Medicine, Mayo Clinic, Scottsdale, Arizona	07/2012 - Present
<b>Staff member and co-director, Severe Asthma Clinic</b> - Phoenix Children's Hospital, Phoenix, Arizona Along with the pediatric pulmonology division at PCH, I co-direct this clinic that is designed for children with severe asthma	01/2013 - Present
<b>Teaching/Examining Privileges in Clinical &amp; Translational Science</b> - Mayo Clinic Graduate School of Biomedical Sciences, Mayo Clinic College of Medicine and Science	10/2013 - Present
<b>Consultant (Joint Appointment)</b> - Department of Otolaryngology Head & Neck Surgery/Audiology, Mayo Clinic, Phoenix, Arizona	12/2014 - Present
<b>Chair</b> - Division of Allergy, Asthma, and Clinical Immunology, Department of Internal Medicine, Mayo Clinic, Scottsdale, Arizona	12/2016 - Present
<b>Professor of Medicine</b> - Mayo Clinic College of Medicine and Science	10/2020 - Present

### 3. Education

University of Wisconsin, Madison, Madison, Wisconsin - BS, Genetics and History	1994 - 1998
University of Wisconsin School of Medicine, Madison, Wisconsin - MD	1998 - 2002
Ohio State University, Columbus, Ohio - Resident, Internal Medicine/Pediatrics	2002 - 2006
Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine, Rochester, Minnesota - Fellow, Allergy/Immunology	2006 - 2008
Allergy and Immunology, Programs in Rochester, Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine, Rochester, Minnesota - Resident	07/2006 - 06/2008

### 4. Certification

#### Board Certifications

#### American Board of Allergy and Immunology (ABAI)

Allergy and Immunology	2008 - Present
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#### American Board of Internal Medicine (ABIM)

Internal Medicine	2006 - Present
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#### American Board of Pediatrics

Pediatrics	2006 - Present
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#### Other Certifications

#### Mayo Clinic Quality Academy

Mayo Clinic Quality Fellow: Bronze Level Certification	2009
Mayo Clinic Quality Fellow: Silver Level Certification	2011

### 5. Licensure

Minnesota	49088 (Medical)	2006 - 2014
Arizona	45678 (Medical)	2012 - Present

## 6. Honors and Awards

<b>Medical Student Association Leadership Award-MEDIC Council</b> - University of Wisconsin School of Medicine	01/2000
<b>Resident Teaching Award</b> - Columbus (Nationwide) Children's Hospital	06/2006
<b>Clemens von Pirquet Abstract Award, 2nd place</b> - American College of Allergy, Asthma & Immunology	01/2007
<b>Clemens von Pirquet Award, Mentor</b> - American College of Allergy, Asthma & Immunology	01/2009
<b>Department of Medicine 2009 Laureate Award</b> - Mayo Clinic Rochester Department of Medicine, Mayo Clinic	11/2009
<b>Teacher of the Year, Allergic Diseases</b> - Mayo Fellows Association, Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine, Rochester, Minnesota	05/2010
<b>Young Scholars' Research Award</b> - Foundation of the American College of Allergy, Asthma, and Immunology	11/2010 - 10/2011
<b>Health Care Delivery Scholar-Robert D. and Patricia E. Kern Center for the Science of Healthcare Delivery, Mayo Clinic</b> - Mayo Clinic Healthcare Delivery Research Program	07/2012 - 06/2014
<b>Edward J. O'Connell Memorial Lectureship</b> - American College of Allergy, Asthma, and Immunology	11/2019
<b>Distinguished Clinician Award</b> - Mayo Clinic	11/2022
<b>Department of Medicine Teaching Award</b> - Mayo Clinic Arizona	05/2024

## 7. Previous Professional Positions and Major Appointments

<b>Instructor of Medicine</b> - Mayo Clinic College of Medicine and Science	06/2008 - 04/2010
<b>Senior Associate Consultant</b> - Division of Allergic Diseases, Department of Internal Medicine, Mayo Clinic, Rochester, Minnesota	06/2008 - 06/2011
<b>Assistant Professor of Medicine</b> - Mayo Clinic College of Medicine and Science	05/2010 - 08/2015
<b>Consultant</b> - Division of Allergic Diseases, Department of Internal Medicine, Mayo Clinic, Rochester, Minnesota	06/2011 - 07/2012
<b>Co-director, Multidisciplinary Clinic for Challenging Sinus Disease</b> - Department of Otolaryngology and Medicine, Phoenix, Arizona Co-direct a specialty clinic with Dr. Devyani Lal of ENT focused on providing care with complex sinus disease	07/2012 - 07/2019
<b>Associate Program Director, Research Scholars Program</b> - Mayo Clinic Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, Rochester, Minnesota	07/2014 - 06/2015
<b>Program Director</b> - Mayo Clinic Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, Rochester, Minnesota Research Scholars Program	07/2015 - 06/2021
<b>Associate Professor of Medicine</b> - Mayo Clinic College of Medicine and Science	09/2015 - 09/2020
<b>Associate Program Director</b> - Allergy-Immunology Fellowship Training Program, Mayo Clinic, Phoenix, Arizona	07/2016 - 06/2022
<b>Chair</b> - Allergy Immunology Special Council, Mayo Clinic Enterprise	01/2021 - 10/2024
<b>Interim Chair</b> - Division of Rheumatology, Department of Internal Medicine, Mayo Clinic, Phoenix, Arizona	03/2021 - 07/2022
<b>Program Director</b> - Allergy-Immunology Fellowship Training Program, Mayo Clinic, Phoenix, Arizona	07/2022 - 07/2024

## 8. Service

**Military****Community Memberships and Services**

Arizona Asthma Coalition Volunteer	2016 - Present
St. Vincent de Paul Clinic Volunteer Physician	07/2022 - Present
US Food and Drug Administration Pulmonary-Allergy Advisory Committee Member	10/2023 - Present

**9. Professional Memberships and Societies****Professional Memberships and Services**

AcademyHealth Member	01/2012 - 01/2014
American Academy of Allergy, Asthma and Immunology Member	03/2007 - Present
Fellow	03/2011 - Present
Annual Meeting Program Subcommittee Member	11/2014 - 11/2020
Health Care Delivery and Quality Planning Committee Member	07/2012 - Present
Secretary/Treasurer	11/2014 - 03/2017
Vice Chair	03/2017 - 03/2019
Chair	03/2019 - 03/2021
Immunotherapy Committee Member	01/2008 - 11/2014
Rhinitis, Rhinosinusitis, and Ocular Allergy Committee Member	01/2010 - 11/2014
Interest Section Coordinating Committee Member	11/2014 - 11/2019
Joint Task Force for Practice Parameters Member	10/2016 - Present
Co-Chair	07/2024 - Present
Needs assessment and outcomes subcommittee Member	11/2014 - 03/2016
Quality Measures Stewardship Committee Chair	03/2023 - Present
American College of Allergy, Asthma & Immunology Member	01/2006 - Present
Fellow	06/2019 - Present
American Thoracic Society Member	01/2008 - 01/2012
Food Allergy and Anaphylaxis Network Member	01/2008 - 01/2012

**Journal Editorial Responsibilities**

American Journal of Rhinology & Allergy Editorial Board Member	07/2015 - 07/2017
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Journal of Allergy and Clinical Immunology: In Practice

Board Member

07/2014 - Present

June 2022 Issue

Coordinating Editor

06/2022

**Journal Other Responsibilities**

Allergy

Reviewer

01/2009 - Present

Annals of Allergy, Asthma &amp; Immunology

Reviewer

01/2007 - Present

Clinical and Experimental Allergy

Article Reviewer

07/2012 - Present

European Respiratory Journal

Referee/Reviewer

07/2012 - Present

International Forum for Allergy &amp; Rhinology

Reviewer

11/2016 - Present

Journal of Allergy and Clinical Immunology

Article Reviewer

07/2014 - Present

Journal of Allergy and Clinical Immunology: In Practice

Article Reviewer

07/2012 - Present

Laryngoscope

Reviewer

01/2016 - Present

Mayo Clinic Proceedings

Article Reviewer

07/2008 - Present

**10. Education Interests and Accomplishments****A. Curriculum and Course Development**

Development of Web curriculum for Allergy-Immunology and Emergency Medicine 2006

Ohio State University

Ohio

Writing Allergen Immunotherapy Prescriptions

2009 - 2012

Mayo Clinic

Vaccine allergy evaluation

2009 - 2012

Mayo Clinic

Rhinitis and Rhinosinusitis: For Boards and Beyond

2009 - 2012

Mayo Clinic

Practical Aspects of Allergen Immunotherapy: A novel web-based educational tool

2009 - 2012

Development of a web-based module that includes interactive features to be used by allergy and immunology trainees throughout the country.

Mayo Clinic

Rhinoscopy for Allergy Fellows

07/2011 - 07/2012

Mayo Clinic

Allergy and Immunology Board Review for ENT

2012 - Present

Tackling Problematic Sinusitis, Course co-director

03/2013 - 03/2018

Co-director with Dr. Devyani Lal of ENT for annual CME event that attracts world experts and 100 attendees/year

Mayo School CME

AAAAI HEDQ Quality improvement web site

01/2014 - 01/2016

We created a web site with QI resources and a platform for QI project registry within the Allergy-Immunology field

Patient Centered Care Domain, Co-leader

07/2014 - Present

Along with co-leader Dr. Natt, we are developing the patient-centered care domain for the science of healthcare delivery domain for the Mayo Medical School  
Mayo Medical School

AAAAI Asthma Practice Improvement Module 10/2016 - 10/2017  
Tool for members to obtain MOC and improve their asthma management

## B. Teaching

Cost effective medicine Ohio State University Medical Grand Rounds Columbus, Ohio	06/2006
Board Review Session for Pediatrics Residency Mayo Clinic Rochester, Minnesota	04/2007
Allergen immunotherapy prescription writing Allergy fellows Mayo Clinic	2008
Skin disease and allergy testing: Indications, interpretation, and avoiding malnutrition Dermatology grand rounds Mayo Clinic	10/2008
Vaccine allergy evaluation Allergy fellows Mayo Clinic	2009
Allergy Testing Pediatric Residency lecture Mayo Clinic	02/2009
Anaphylaxis and Urticaria in the inpatient setting Acute Care for the complex hospitalized patient for nurse practitioners and physician assistants	02/2013
Chronic asthma management: Stepping down Department of Medicine Grand Rounds	03/2013
Food allergy: myths, fads, and data Update on women's health	03/2013
Update in Asthma Multidisciplinary update in pulmonary and critical care medicine	04/2013
Medical management for chronic rhinosinusitis: from simple to Samter's Endoscopic and Skull based surgery	04/2013
Pollen food allergy syndrome Dermatology Grand Rounds	09/2013
ENT Grand Rounds; Chronic rhinosinusitis, an allergy-immunology perspective Mayo	03/2015
Severe Asthma Diagnosis and Management A-I Fellows Educational Session Mayo	04/2015
Chronic Rhinosinusitis Management A-I fellows educational session Mayo	04/2015
Pulmonary Eosinophilia: Narrowing a broad differential diagnosis Annual Mayo Pulmonary CME course Mayo CME	04/2015
Work-Life Balance Kern Scholar Retreat Rochester, Minnesota	04/2016

ANCA-associated sinusitis ENT Grand Rounds MCR/MCF/MCA	09/09/2016
Chronic rhinosinusitis: Evidence for medical management and case studies A-I Fellow Educational Series MCR/MCF/MCA	09/21/2016
Subtyping Asthma Tackling Problematic Sinusitis Phoenix, Arizona	03/31/2017
Combined Allergy and ENT Sinus Clinics Tackling Problematic Sinusitis Phoenix, Arizona	03/31/2017
Rhinitis for the IM Boards Mayo Internal Medicine Residency program lecture series Scottsdale, Arizona	04/03/2017
Asthma: The Allergy Perspective Mayo Pulmonary CME course Scottsdale, Arizona	04/09/2017
Using Observational Data to Improve Asthma Care Mercy Care Plan Board Meeting	05/04/2017 - Present
Loss of smell, taste, and hearing Mayo Clinic Enterprise wide allergy case conference	10/17/2017 - Present
Asthma Care in Maricopa County: Observational Data to Population-level Action Center for the Science of Healthcare Delivery Works-in-Progress	01/08/2018
The Unified Airway Hypothesis: Clinical Implications Mayo ENT CME	03/23/2018
Chronic Rhinosinusitis: Learning Through Exposure to Clinical Cases Mayo Clinic Arizona Medical Grand Rounds	03/23/2018
Aspirin Desensitization Interactive Workshop Mayo ENT CME	03/24/2018
(Re) Ordering Treatment for Atopic Dermatitis Mayo Enterprise-Wide Allergy Case Conference Scotts Valley, California	04/10/2018
Why and How to Step Down Asthma Medications Mayo Pulmonary CME	04/15/2018
Asthma Internal Medicine Residents Noon Conference Mayo Clinic	07/2018
Using Evidence to Choose Management for Patients with Eosinophilic Esophagitis Allergy Grand Rounds Mayo Clinic	09/2018
Kern Scholars Program Kern Center Grand Rounds Mayo Clinic	03/2019
The Full Evaluation at Mayo Clinic Allergy Grand Rounds Mayo Clinic	03/2019
Asthma Pulmonary Grand Rounds Mayo Clinic	09/2019
How to Avoid Pitfalls While Efficiently and Effectively Serving as a Journal Reviewer Tuesday Case Conference, Allergy Tri-Site - Faculty Development Series	10/2019

Mayo Clinic

Biologics for Nasal Polyposis

02/2020

Allergy Grand Rounds

Mayo Clinic

Phoenix, Arizona

New Asthma Guidelines

07/2020

Medicine Grand Rounds

Mayo Clinic

Jacksonville, Florida

Uncommon Allergy-Immunology Problems

08/2020

Allergy Grand Rounds

Mayo Clinic

Phoenix, Arizona

Asthma

08/2020

Internal Medicine Residents' Noon Conference

Mayo Clinic

Phoenix, Arizona

**C. Academy of Educational Excellence****D. Mentorship**

<b>Individual and Position</b>	<b>Timeframe</b>	<b>Outcomes</b>	<b>Current Status</b>
Harish, Amitha Allergy/Immunology Fellow	1/2008 - 1/2010	1 presentation at a national meeting	Private Practice Allergy, Portsmouth, NH
Shah, Kunal Allergy/Immunology Fellow	1/2008 - 1/2010	2 abstract presentations at national meetings, 1 original publication in a peer-reviewed journal	Staff allergist, Mayo Clinic Southwest Region, Mankato, MN
Elias, Martha Allergy/Immunology Fellow	1/2008 - 1/2011	2 abstracts presented together at national meetings	Assistant Professor of Medicine and Pediatrics, Dartmouth University, Lebanon, NH
Fox, Stephanie Allergy/Immunology Fellow	7/2009 - 6/2011	2 Abstract Presentations at national meetings	Staff Allergist, HealthEast, St Paul, MN
Patel, Sujan Allergy/Immunology Fellow	1/2010 - 1/2012	2 abstracts presented at national meetings	Assistant Professor of Allergy and Immunology, New York Eye and Ear Infirmary, New York, NY, Staff allergist
Podjasek, Jenna Allergy/Immunology Fellow	1/2011 - 7/2013	1 abstract presented at a national meeting; 2 original articles submitted for publication	Private Practice, A-I, Chicago, IL
Samant, Shefali Allergy/Immunology Fellow	1/2011 - 7/2013	3 abstracts at national meetings; 3 original manuscripts submitted	Currently at staff at Kaiser Permanente Southern California and active academically
Bauer MD, Cindy Clinical Mentee	7/2013 - Present	Serving as mentor for Dr. Bauer as she sets up a new clinical allergy-immunology practice at a large children's hospital; 1 presentation and 1 publication completed	Clinical Associate Professor of Pediatrics, Assistant Professor of Medicine (Mayo Clinic),

together.

Clinical Professor of Pediatrics (University of Arizona), and Staff Allergist, Phoenix Children's Hospital

Davis, Destinee	7/2013 - 3/2018	Presentation at PCH research day; Admitted to PA school	Physician's Assistant Student
Hines, Brittany Resident Mentee	7/2013 - 6/2018	2 abstracts presented at national meetings	Allergy-Immunology Fellow at Mayo Clinic
Gionfriddo, Michael Research Mentee	1/2014 - 1/2017	4 original manuscripts written together, served on PhD thesis committee prior to his current faculty position	Investigator I, Center for Pharmacy Innovation and Outcomes, Geisinger Precision Health Center, Forty-Fort, PA
Wright, Benjamin Research Mentee	7/2015 - Present	Clinical research mentee, meet weekly, multiple IRB protocols, research presentations, and publications	Assistant Professor of Medicine (Mayo) and Clinical Professor of Pediatrics (University of Arizona), and Staff Allergist-Immunologist, Phoenix Children's Hospital
Doyle, Alfred Postdoctoral Research Fellow	7/2017 - Present	Multiple papers/presentations	Principal Technologist
Jacobsen, Elizabeth	7/2017 - Present	Multiple papers/presentations	Associate Consultant I
Freeman, Catherine Allergy/Immunology Fellow	7/2019 - Present	Multiple papers/presentations	Allergy-Immunology Fellow
Maddux, Jacob Allergy/Immunology Fellow	7/2019 - Present	Multiple papers/presentations	Allergy-Immunology Fellow
Lam, Regina Medical Student	1/2020 - Present Mentor for Masters of Science of Health Care Delivery Degree		Mayo Clinic Alix School of Medicine - Arizona
Gonzalez-Estrada MD, Alexei	7/2022 - Present		Assistant Professor, Mayo Clinic Arizona
Wonnapharhown MD, Alex	7/2022 - Present		Assistant Professor, Mayo Clinic Arizona
Gleeson MD, MSCE, Patrick	8/2022 - Present		Assistant Professor, University of Pennsylvania
Akenroye MBCHB, MPH, PhD, Ayobami	7/2023 - Present		Assistant Professor, Harvard Medical School
Rusk MD, Ann	10/2023 - Present		Assistant Professor, Mayo



**E. Academic Career Development**

Faculty Enhancement and Education Development Program in Core Clinical Teaching Mayo Clinic Rochester, Minnesota	01/2010
Certificate in Clinical and Translational Science Research certificate program, completed >12 credits in courses like statistics, epidemiology, trial design, ethics, etc. Center for Translational Science Activity, Mayo Clinic Rochester, Minnesota	02/2011
Instructional Framework: Novice to Experts Faculty Development Workshop Mayo Medical School Arizona Campus Scottsdale, Arizona	08/2015
Helping Struggling Learners: A SOAP Approach Faculty Development Workshop Mayo Medical School Arizona Campus Scottsdale, Arizona	09/2015
Artistic Renderings of MMS Arizona – Human Factors Mayo Medical School Arizona Campus Scottsdale, Arizona	11/2015
FERPA Faculty Development Workshop Mayo Medical School Arizona Campus Scottsdale, Arizona	11/2015
AAAAI Leadership Institute Faculty Development - Developed to cultivate next generation of AAAAI leaders; group session participation was by invitation AAAAI Annual Meeting Houston, Texas	11/2015
AAAAI Leadership Institute Faculty Development - Developed to cultivate next generation of AAAAI leaders; group session participation was by invitation AAAAI Annual Meeting Los Angeles, California	11/2016
Distilling Your Message - Walter Dishell Faculty Development	11/2016
Enough About Burnout: Let's Talk Well Being and the Role of Coaching - Kerri Palamara Faculty Development Mayo Clinic Phoenix, Arizona	06/2017
Teaching Diagnostic Reasoning in the Clinical Setting - Adam Cifu, MD Faculty Development Mayo Clinic Phoenix, Arizona	11/2017
Medical Reversal - Adam Cifu, MD Faculty Development Mayo Clinic Phoenix, Arizona	11/2017
One Minute Preceptor Faculty Development Take 5 Video	11/2017

How to Write Letters of Recommendation - Amy Oxentencko, MD Faculty Development Take 5 Video	02/2018
Selecting for Emotional Intelligence in Interviews - Josyln Vaught Faculty Development Workshop Mayo Clinic School of Graduate Medical Education Scottsdale, Arizona	07/2018
Teaching, Self Directed Learning & Reflection - Rick Nishimura, MD Faculty Development Take 5 Video - Allergy Division Meeting	04/2019
Allergy Tri-Site - Dr. Lily Pien Faculty Development Series Mayo Clinic Tuesday Case Conference	10/2019
Teaching High Value Care - Stephanie Starr, MD Faculty Development Take 5 Video	11/2019
Overcoming Unconscious Bias Faculty Development Online Module	06/2020
Stereotype Threat Faculty Development Online Module	06/2020
Strategies to Support Learners Seeking Help - Lotte Dyrbye, MD, MHPE Faculty Development Take 5 Video	09/2020
Joy of Teaching - Mary Hedges, MD Faculty Development Take 5 Video	01/2021

## F. Educational Activities

(1) Teaching residents, fellows, and multidisciplinary teams about diagnosis and management of airway disease, specifically chronic rhinosinusitis and asthma; (2) Curriculum development and teaching of the science of healthcare delivery, current activity in the Mayo Medical School; (3) Involved in the development of a MCA Allergy-Immunology fellowship to begin in 2017; (4) Involved in multiple educational efforts at the national level in the AAAAI, including multiple committees responsible for delivering content at the annual meeting and in other methods; (5) Co-director of annual Mayo Sinus CME course

## 11. Institutional/Departmental Administrative Responsibilities, Committee Memberships and Other Activities

### Mayo Clinic

Arizona Center for the Science of Healthcare Delivery Member Review requests for research funding as part of a 5 person committee for projects specific to the science of healthcare delivery at MCA	11/2014 - 2019
Mayo Clinic Kern Center Kern Society Affiliate - Kern Center Scholars, Scholar Alumni and mentors of current scholars	09/25/2018 - Present

### Mayo Clinic in Rochester

Department of Internal Medicine Division of Allergic Diseases Allergic Diseases Rhinitis and Sinusitis Clinic Physician Leader I led the development of a specialty clinic for rhinitis/sinusitis, including the procedural development of rhinoscopy in the division of allergy	06/2008 - 06/2012
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Research Committee	
Member	01/2008 - 06/2012
As a committee member, we met monthly the review research issues directly related to the allergy division	
Vaccine Allergy Clinic	
Physician Leader	01/2009 - 06/2012
We started a vaccine allergy clinic in response to patient and institution need	
QUEST Assembly	
Member	11/2009 - 06/2012
I served on the Quality board in the department of medicine in Mayo Clinic Rochester	
Mayo Clinic Rochester Committees	
Clinical Practice Committee - Rochester	
Pharmacy and Therapeutics Subcommittee - Rochester	
Drug Desensitization Protocols Development	
Participant	01/2008 - 06/2012
We developed standardized drug desensitization protocols for the hospital practice	
<b>Mayo Clinic in Arizona</b>	
Mayo Clinic Arizona Committees	
Executive Operations Team - Arizona	
Research Operations Management Team - Arizona	
Clinical Research Subcommittee	
Clinical Trial Review Group	
Member	01/2017 - Present
Scottsdale Campus Transformation Project	
Phase 2/3	
Co-Chair	07/2023 - 08/2023
Multidisciplinary Disease Oriented Group (DOG)	
Member	07/2012 - Present
Vice Chair	12/2014 - 12/2016
Chair	01/2017 - 01/2020
<b>Activities at Other Institutions</b>	
Arizona State Allergy Society	
Member	2012 - Present
Phoenix Children's Hospital Breathmobile	
Research Director	2016 - Present

## 12. Presentations Extramural

### National or International

#### Invited

Aspirin and antibiotic desensitization	02/2015
AAAAI Annual Meeting	
Houston	
Quality and Safety in Allergy	02/2015
AAAAI annual meeting	
Houston, Texas	
GRADIng Eosinophilic Esophagitis Guidelines for the Allergist	11/2019
Plenary Presentation	

AAAAI National Meeting  
Houston, Texas

Biologics in Nasal Polyps: Who & When 03/2020  
ENT Update 2020 & Tackling Problematic Sinusitis 2020  
Sedona, Arizona

ENT-Allergy Partnership for CRS Rx 03/2020  
ENT Update 2020 & Tackling Problematic Sinusitis 2020  
Sedona, Arizona

### Oral

Nearly Half of Systemic Reactions (SRs) to Allergen Immunotherapy (AIT) Occurred  
More Than 30 Minutes After the Injection 2008  
American College of Allergy, Asthma & Immunology (ACAAI)  
Philadelphia, Pennsylvania

Allergen immunotherapy education project: a randomized study of a web based  
intervention 01/2009  
Allergy and Immunology Program Directors' Meeting  
San Antonio, Texas

Medication interference with allergy skin tests: Which medications are true culprits? 2009  
American College of Allergy, Asthma, and Immunology  
Miami Beach, Florida

Negative vaccine allergy skin testing strongly predicts future vaccine tolerance 2009  
American College of Allergy, Asthma, and Immunology  
Miami Beach, Florida

Smell disturbance distinguishes CRS from NAR in an allergy-based subspecialty  
clinic for patients with sinonasal symptoms 2009  
American College of Allergy, Asthma, and Immunology  
Miami Beach, Florida

False positive skin tests to influenza vaccine are more common in patients with egg  
allergy than in patients without egg allergy 2010  
American College of Allergy, Asthma, and Immunology (ACAAI)  
Phoenix, Arizona

Systemic mediator release in systemic and large local reactions to subcutaneous  
allergen immunotherapy 2010  
American College of Allergy, Asthma, and Immunology (ACAAI)  
Phoenix, Arizona

How Commonly does symptom severity vary by season in nonallergic rhinitis 2011  
American College of Allergy, Asthma, and Immunology  
Boston, Massachusetts

The right dose allergen immunotherapy project: Establishing error rates and  
process mapping 2011  
American Academy of Allergy, Asthma, and Immunology (AAAAI)  
San Francisco, California

A randomized controlled trial of a web-based educational intervention for teaching  
allergen immunotherapy 03/2011  
American Academy of Allergy, Asthma, and Immunology (AAAAI)  
San Francisco, California

The risk of asthma exacerbation after stopping low-dose inhaled corticosteroids: a  
systematic review and meta-analysis of randomized controlled trials 03/2012  
AAAAI Annual Meeting  
Anaheim, California

Practical tips for accurate diagnosis of allergy and immunology disorders 10/2015  
Presented twice  
Internal Medicine Update  
Sedona, Arizona

Update on Asthma Treatment: Evidence-Based Recommendations for 2016 "Asthma Step Down" Session #4815: (Symposium presentation) American Academy of Allergy, Asthma, and Immunology Annual Meeting Los Angeles, California	2016
Diagnostic testing in recalcitrant chronic rhinosinusitis Tackling Problematic Sinusitis 2016 Phoenix, Arizona	03/2016
Opportunities to Improve Asthma Care in Arizona: A Role for All of Us Keynote Arizona Asthma Coalition Annual Meeting	10/2017
How to Link your Chronic Rhinosinusitis Evaluation to Actionable Treatment Seminar AAAAI, 2018	03/05/2018
Aspirin Exacerbated Respiratory Disease Mayo Clinic Allergy CME Course Coronado, California	07/2018
Re-ordering Treatment for Atopic Dermatitis Mayo Clinic Allergy CME Course Coronado, California	07/2018
New Biologicals for Asthma Vasculitis Foundation Phoenix, Arizona	04/2019
Factors Associated with Dysfunctional Breathing Journal of Allergy and Clinical Immunology In Practice Journal Club Webinar	06/2019
Asthma Yardstick: Measure Up! ACAAI Webinar	07/2019
Top 10 Allergy Topics Mayo Clinic CME Sedona, Arizona	10/2019
Diet vs. Steroids for Eosinophilic Esophagitis AAAAI National Meeting Houston, Texas	11/2019
The Asthma Step-down Yardstick AAAAI National Meeting Houston, Texas	11/2019
Complex Cases in Aspirin Exacerbated Respiratory Disease Mayo Allergy-Immunology CME Coronado, California	08/2021
Biologics Before Surgery Presented Virtually Mayo ENT CME Course Hawaii	08/2022
Biologics: Which, When to Start, and How to Stop Presented Virtually Mayo ENT CME Course Hawaii	08/2022
Asthma in Athletes Mayo Sports Medicine CME Course Phoenix, Arizona	01/2023
Biologics in Airway Disease Mayo Allergy-Immunology CME Course Half Moon Bay, California	08/2023

Relationships of Endotypes and Phenotypes with Biologics for Chronic Rhinosinusitis Presented Virtually AAAAI Annual Meeting Washington, District of Columbia	02/2024
Person Centered Care Mayo Health System Science Course Phoenix, Arizona	03/2024
Cough in Patients with CRS Mayo ENT CME Course Scottsdale, Arizona	04/2024
Multidisciplinary Approach and Paradigms for Biologics in CRS Mayo ENT CME Course Scottsdale, Arizona	04/2024
Change is Hard: New Approaches for Managing Asthma Mayo Pulmonary CME Course Paradise Valley, Arizona	05/2024
<b>Poster</b>	
A Case of Food allergy Due To Longan Fruit American College of Allergy, Asthma & Immunology (ACAAI) Philadelphia, Pennsylvania	2006
Identification of Risk Factors for Systemic Reactions to Allergen Immunotherapy American College of Allergy, Asthma & Immunology (ACAAI) Dallas, Texas	2007
Management of Asthma Exacerbation in a Patient With Wiskott Aldrich Syndrome American College of Allergy, Asthma & Immunology (ACAAI) San Diego, California	2007
Antidepressant and Anxiolytic Prescription in Patients on Allergen Immunotherapy American College of Allergy, Asthma & Immunology (ACAAI) Philadelphia, Pennsylvania	2008
Cardioselective $\beta$ -blocker Prescription in Aged Asthmatics American Thoracic Society International Meeting Toronto, Ontario, Canada	2008
Activation of Dendritic Cells by IL-33 initiates a Th2 response American Academy of Allergy, Asthma, and Immunology (AAAAI) Washington, District of Columbia	2009
Antihistamine interference with allergy skin tests: how long should we wait? American Academy of Allergy, Asthma, and Immunology (AAAAI) Washington, District of Columbia	2009
Desensitization to trimethoprim/sulfamethoxazole in non-HIV patients American Academy of Allergy, Asthma, and Immunology (AAAAI) Washington, District of Columbia	2009
A clinical prediction rule for long term outcomes after stepping down asthma controller medications KI-Mayo Scientific Meeting Rochester, Minnesota	09/2014
Adherence to Topical Medications for Chronic Rhinosinusitis: Medication Possession Ratio and Description of Adherence Barriers American Academy of Allergy, Asthma, and Immunology 2016 Los Angeles, California	2016
Nasal and Pharyngeal Eosinophil Peroxidase Levels Represent Surrogate Biomarkers for the Presence of Lower Airway Eosinophils in Adults with Poorly Controlled Asthma	02/2016

American Academy of Allergy, Asthma, and Immunology 2016  
Los Angeles, California

Omalizumab Utilization Trends for Asthma in the U.S. from 2003-2015 02/2017  
AAAAI Annual Meeting  
Atlanta, Georgia

Step Down of Asthma Biologics 06/2019  
AcademyHealth  
Virtual

Asthma Biologic Persistence 03/2020  
AAAAI Annual Meeting  
Virtual

## **Regional**

### **Invited**

Medication Allergies: The Essentials for Busy Providers 09/2011  
NP/PA Mayo Clinic Review  
Rochester, Minnesota

Diagnosis and Management of Chronic Rhinosinusitis 10/2011  
Mayo Clinical Reviews 2011  
Rochester, Minnesota

United Airways: An Integrated Approach to Airway Disorders 10/2011  
Mayo Clinical Reviews 2011  
Rochester, Minnesota

Asthma in old age, pregnancy, and obesity 10/2013  
Arizona Asthma Coalition  
Mesa, Arizona

Best practices in pediatric sinusitis 12/2014  
Phoenix Children's Hospital Pulmonary Grand Rounds  
Phoenix, Arizona

Keynote-Opportunities to Improve Asthma Care in Maricopa County and Statewide 10/2017  
Arizona Asthma Coalition Annual Conference

Asthma care in Maricopa County: Observational Data to Population-level action 01/2018  
Science of Healthcare Delivery Presentation  
Mayo Clinic, Scottsdale, AZ, Arizona

Lower Respiratory Disease in Young Adults 05/2020  
Grand Rounds  
Arizona State University  
Tempe, Arizona

New Guidelines for Asthma: Changing How We Do Things 09/2020  
Arizona State Asthma Coalition Annual Meeting  
Virtual

Should We Be SMARTer About How We Use Inhalers? 10/2020  
Asthma Toolbox  
Phoenix Children's Hospital  
Phoenix, Arizona

### **Oral**

Pharmacological Therapy Through the Lifespan Part II: Adults, Pregnancy & 10/2015  
Geriatrics  
Arizona Asthma Coalition Meeting  
Mesa, Arizona

A Maricopa County Study of Utilization and Outcomes Among Children with Asthma 04/2016  
and Medicaid Insurance  
Phoenix Children's Research Day

Allergy the New and the Shiny Arizona State University Grand Rounds Tempe, Arizona	05/2019
Learning About New Asthma Guidelines Using a Case-Based Approach Grand Rounds (Presented Virtually) Summit Healthcare Lakeside, Arizona	10/2021
New Asthma and Sinusitis Guidelines to Help Your Patients Grand Rounds (Presented Virtually) University of Arizona - Phoenix Phoenix, Arizona	04/2022
SMART for Asthma? Phoenix Children's Hospital Pulmonary Conference Phoenix, Arizona	07/2022
Guidelines on the Management of Eosinophilic Esophagitis Presented Virtually Mercy Children's COLA Series Kansas City, Missouri	08/2023

**Poster**

Aortic Valve Injury in a Patient that Presented with Cardiogenic Shock Ninety-Five Days Following Blunt Chest Wall Trauma Ohio State University Research Day Columbus, Ohio	2005
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**Unclassified****Oral**

Chronic cough: Difficult Cases AAAAI San Francisco, California	03/2012
Advances in allergen immunotherapy and upper airway diseases AAAAI Webinar AAAAI	05/2012
Quality Improvement and Safety in Allergy and Immunology AAAAI San Antonio, Texas	02/2013

**13. Visiting Professorship**

Cleveland Clinic Pediatric Grand Rounds: "Chronic asthma medication management: Stepping Down" Allergy Grand Rounds: "Cases from the Multidisciplinary Clinic for Challenging Sinus Disease" Pediatric and Allergy Grand Rounds Cleveland, Ohio	10/08/2013
Great Expectations: What to Expect from our Allergy-Immunology Interventions Presented Virtually Northwestern University Evanston, Illinois	06/2021

**14. Clinical Practice, Interests, and Accomplishments**

Clinical Practice: Adult and pediatric allergy, asthma and immunology Clinical Interests: Chronic rhinosinusitis; Nasal polypsis; Asthma; Allergen immunotherapy; Allergic and Nonallergic rhinitis; Chronic cough; Vaccine allergy; Drug allergy; Food allergy; Rhinoscopy Clinical Accomplishments: Served as physician champion in the initiation of the Rhinitis-Sinusitis clinic and the Vaccine allergy clinic. Currently initiating 2 new clinics: The Multidisciplinary Center for Challenging Sinus Disease (ENT-Allergy interdepartmental clinic) and the Pediatric Severe Asthma Clinic (partnership with pediatric pulmonology at Phoenix Children's Hospital)



## 15. Quality Initiatives

### Quality Improvement Projects

Increasing Provider Recording of a Standardized Patient-Reported Measure of Asthma Control (Silver Project) Bridget E. Wilson, MD (Team Lead), <b>Matthew A. Rank, MD</b> .	07/04/2024
Allergy Skin Testing and Patient Antihistamine Use (Silver Project) Rachel K. Lord (Team Lead), Brandy A. Jacobson, MSN, RN, <b>Matthew A. Rank, MD</b> , Susan A. Kinate, PA-C, MS.	08/13/2024
Standardize Ordering Process for Patient Challenges (Silver Project) Catherine R. Weiler, M.D., Ph.D. (Project Editor), gerald W. Volcheck, M.D., Kimberly (Kim) L. Poe, MBA/HCM, R.N., N.E.-B.C., <b>Matthew A. Rank, M.D.</b> .	08/16/2013

### Quality

Served as Division of Allergic Diseases Quality Chair, Bronze and Silver level certified, helped developed Quality Corner for AAAAI, and serves as mentor for trainee QI projects	07/2008 - 07/2012
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## 16. Research Interests and Accomplishments

1. Asthma healthcare delivery and costs 2. Outcomes of stepping down asthma medication 3. Asthma quality measurement 4. Asthma management tools 5. Chronic rhinosinusitis triggers and epidemiology 6. Chronic rhinosinusitis management 7. Allergen immunotherapy safety

## 17. Research Grants Awarded

### Active Grants

#### Federal

Co-Investigator	Pulmonary Response to Ozone-exposed Ragweed Pollen Grains. Funded by National Institute of Allergy and Infectious Diseases. (R21 AI182888)	06/2024 - 04/2026
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#### Federal sub award

Program Director / Principal Investigator	Precision Interventions for Severe Asthma (PrecISE). Funded by National Institutes of Health. (HL138998)	07/2019 - 06/2025
Program Director / Principal Investigator	Southwest Health Equity Research Collaborative (SHERC). Funded by National Institute on Minority Health and Health Disparities. (MD012388)	09/2022 - 05/2027
Co-Investigator	NOVEL DIAGNOSTIC FOR MANAGING ASTHMA AT POINT OF CARE. Funded by National Heart, Lung, and Blood Institute. (HL176373)	09/2024 - 07/2026

#### Foundation

Co-Investigator	Modifying Adverse Gastrointestinal Complications During Milk Oral Immunotherapy (MAGIC). Funded by Stanford University. (Stanford Milk Allergy)	01/2021 - 12/2025
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### Completed Grants

#### Federal

Program Director / Principal Investigator	Bending the asthma cost curve: Is optimizing medication the answer?. Funded by Agency for Healthcare Research and Quality. (R03 R03 HS022126)	09/2013 - 09/2014
Program Director / Principal Investigator	Step down of asthma biologics in real-world practice settings. Funded by National Institutes of Health. (R21 R21 HL140287)	08/2018 - 08/2021
Co-Investigator	The Pathogenesis of Chronic Rhinosinusitis. Funded by National Institute of Allergy and Infectious Diseases. (R56 AI 49235)	07/2012 - 06/2014
Co-Investigator	Type 2 Innate Lymphoid Cells and Asthma. Funded by National Heart, Lung, and Blood Institute. (R01 HL117823)	07/2020 - 06/2023

**Federal sub award**

Program Director / Principal Investigator	Using the Asthma APGAR to translate guidelines into practice. Funded by Agency for Healthcare Research and Quality. (HS 018431-01A1)	09/2010 - 09/2015
Program Director / Principal Investigator	The Pathogenesis of Chronic Rhinosinusitis. Funded by National Institutes of Health. (R56 AI049235)	07/2012 - 12/2013
Program Director / Principal Investigator	Assessing decision maker tools for Asthma: the Asthma APGAR. Funded by Agency for Healthcare Research and Quality. (R01 HS018431)	08/2013 - 07/2015
Program Director / Principal Investigator	Gut Microbiome Manipulation for Precision Treatment of Asthma. Funded by Flinn Foundation. (Subagreement No. 1003860-01)	11/2018 - 07/2019
Program Director / Principal Investigator	Data, Modeling, and Coordination Center for PrecISE Network. Funded by National Institutes of Health. (U24HL138998)	01/2020 - 06/2021
Co-Program Director / Principal Investigator	Precision Interventions for Severe Asthma (PrecISE) - CORE. Funded by National Heart, Lung, and Blood Institute. (HL139054)	07/2019 - 06/2025

**Foundation**

Program Director / Principal Investigator	Identifying biomarkers that predict systemic reactions to allergen immunotherapy. Funded by American College of Allergy, Asthma, and Immunology. (ACAAI 001)	11/2010 - 10/2012
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**Industry**

Program Director / Principal Investigator	Nocturnal avoidance of inhalant indoor allergen exposures in asthmatic children sensitized to dust mite, dog, or cat allergen: Clinical benefits of a novel Personal Air Quality System (Purezone). Funded by PureZone Technologies	10/2009 - 09/2010
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**Mayo Clinic**

Principal Investigator	A randomized, controlled trial of a novel web-based educational intervention for allergen immunotherapy that compares introductory pre-test questions with a traditional outline format. Funded by EI-10	01/2009 - 12/2009
Program Director / Principal Investigator	14-009369 A home-based airway inflammation assay for predicting asthma stability following a reduction in chronic asthma medications". Funded by MEGA Program - MCA Internal Funds	01/2015 - 06/2016
Program Director / Principal Investigator	14-009369/ Protocol Amendment #1/ A home-based airway inflammation assay for predicting asthma stability following a reduction in chronic asthma medications". Funded by MEGA Program - MCA Internal Funds. (FP00080424-A1)	01/2015 - 06/2016
Program Director / Principal Investigator	2016 AZ Opportunity Fund - Utilization trends of omalizumab for asthma in real-world practice settings. Funded by MEGA Program - MCA Internal Funds. (2016 AZ Opportunity Fund)	10/2016 - 12/2016
Program Director / Principal Investigator	Imaging of Functionally Distinct Leukocyte Subtypes within Tissue Biopsies Using Gene Expression Profiling and a Multiple RNA Targeting Approach. Funded by ASU collaborative fund	01/2017 - 06/2018
Program Director / Principal Investigator	Mayo/PCH Center for Food Allergies - Donald R Levin Family Fund. Funded by Development - Gifts from benefactors. (Levin Gift - Lee, J.)	01/2017 - 12/2021
Program Director / Principal Investigator	Point-of-care technology for tailoring asthma treatment. Funded by CCaTS Office of Translation to Practice – Advance the Practice Research Award	01/2019 - 12/2019
Program Director / Principal Investigator	Novel in-vitro nanoallergen-IgE-testing for drug allergy diagnosis. Funded by Department of Medicine Team Science. ( )	09/2021 - 08/2022
Co-Investigator	Comparison between ACT and ACA in Children. Funded by SGP	04/2011 - 04/2013

- Small Grants Program <\$10K

## 18. Inventions, Commercialization and Offering

A. Patents

Patent Number	Country	Date Filed	Date Issued
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B. Other

## 19. Bibliography

### Peer-reviewed Articles

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## Stamp Vignettes

RE-AIMS 3/6/2025 3:57:04 PM- Latest Update 3/3/2025 7:15:14 AM

**Thesis**

**Ask Mayo Expert Model**

**Ask Mayo Expert Topic**

**Clinical Knowledge Asset**

**Book Reviews**

**Scientific Reports**

**Miscellaneous**

**Social Media Activity**

**Forthcoming**

\* Indicates the primary author was a mentee of this author.

# Indicates the authors contributed equally.