

Curriculum Vitae and Bibliography

Matthew A Rank, MD

Personal Information

Place of Birth: Milwaukee, WI
Citizenship: United States of America
Work Address: Mayo Clinic Arizona
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Scottsdale, AZ 85259
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Present Academic Rank and Position

Consultant - Division of Allergy, Asthma, and Clinical Immunology, Department of Internal Medicine, Mayo Clinic, Scottsdale, Arizona 07/13/2012 - Present
Staff member and co-director, Severe Asthma Clinic - Phoenix Children's Hospital, Phoenix, Arizona 01/2013 - Present
Along with the pediatric pulmonology division at PCH, I co-direct this clinic that is designed for children with severe asthma
Teaching/Examining Privileges in Clinical & Translational Science - Mayo Clinic Graduate School of Biomedical Sciences, Mayo Clinic College of Medicine and Science 10/16/2013 - Present
Consultant (Joint Appointment) - Department of Otolaryngology Head & Neck Surgery/Audiology, Mayo Clinic, Phoenix, Arizona 12/03/2014 - Present
Chair - Division of Allergy, Asthma, and Clinical Immunology, Department of Internal Medicine, Mayo Clinic, Scottsdale, Arizona 12/28/2016 - Present
Professor of Medicine - Mayo Clinic College of Medicine and Science 10/01/2020 - Present
Chair - Allergy Immunology Special Council, Mayo Clinic Enterprise 01/2021 - Present
Program Director - Allergy-Immunology Fellowship Training Program, Mayo Clinic, Phoenix, Arizona 07/2022 - Present

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 07/01/2006 - 06/27/2008

Additional Education

Practical Spirometry 03/2008
Mayo Clinic, Rochester, Minnesota
Writing Grants Workshop 04/2008
Mayo Clinic, Rochester, Minnesota
Career and Leadership Development Modules 1A, 1B, 1C (parts 1 and 3) 10/2008
Mayo Clinic
Career and Leadership Development Presentation Skills Program 09/2009
Mayo Clinic
Faculty enhancement and education development program in core clinical teaching 01/2010
Mayo Clinic Rochester Department of Medicine
Level 1 Guideline Panel Member Training 10/2020

McMaster University, Hamilton, Ontario

Certification

Board Certifications

American Board of Allergy and Immunology (ABAI)

Allergy and Immunology 2008 - Present

American Board of Internal Medicine (ABIM)

Internal Medicine 2006 - Present

American Board of Pediatrics

Pediatrics 2006 - Present

Other Certifications

Mayo Clinic Quality Academy

Mayo Clinic Quality Fellow: Bronze Level Certification 2009

Mayo Clinic Quality Fellow: Silver Level Certification 2011

Licensure

Minnesota 49088 (Medical) 2006 - 2014

Arizona 45678 (Medical) 2012 - Present

Honors and Awards

Medical Student Association Leadership Award-MEDIC Council - University of Wisconsin School of Medicine 01/2000

Resident Teaching Award - Columbus (Nationwide) Children's Hospital 06/2006

Clemens von Pirquet Abstract Award, 2nd place - American College of Allergy, Asthma & Immunology 01/2007

Clemens von Pirquet Award, Mentor - American College of Allergy, Asthma & Immunology 01/2009

Department of Medicine 2009 Laureate Award - Mayo Clinic Rochester
Department of Medicine, Mayo Clinic 11/2009

Teacher of the Year, Allergic Diseases - Mayo Fellows Association, Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine, Rochester, Minnesota 05/2010

Young Scholars' Research Award - Foundation of the American College of Allergy, Asthma, and Immunology 11/01/2010 - 10/31/2011

Health Care Delivery Scholar-Robert D. and Patricia E. Kern Center for the Science of Healthcare Delivery, Mayo Clinic - Mayo Clinic Healthcare Delivery Research Program 07/01/2012 - 06/30/2014

Edward J. O'Connell Memorial Lectureship - American College of Allergy, Asthma, and Immunology 11/2019

Distinguished Clinician Award - Mayo Clinic 11/2022

Previous Professional Positions and Major Appointments

Instructor of Medicine - Mayo Clinic College of Medicine and Science 06/01/2008 - 04/30/2010

Senior Associate Consultant - Division of Allergic Diseases, Department of Internal Medicine, Mayo Clinic, Rochester, Minnesota 06/28/2008 - 06/21/2011

Assistant Professor of Medicine - Mayo Clinic College of Medicine and Science 05/01/2010 - 08/31/2015

Consultant - Division of Allergic Diseases, Department of Internal Medicine, Mayo Clinic, Rochester, Minnesota 06/22/2011 - 07/12/2012

Co-director, Multidisciplinary Clinic for Challenging Sinus Disease - 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
Associate Program Director, Research Scholars Program - Mayo Clinic Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, Rochester, Minnesota	07/2014 - 06/2015
Program Director - 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
Associate Professor of Medicine - Mayo Clinic College of Medicine and Science	09/01/2015 - 09/30/2020
Associate Program Director - Allergy-Immunology Fellowship Training Program, Mayo Clinic, Phoenix, Arizona	07/2016 - 06/2022
Interim Chair - Division of Rheumatology, Department of Internal Medicine, Mayo Clinic, Phoenix, Arizona	03/24/2021 - 07/25/2022

Service

Community Memberships and Services

Arizona Asthma Coalition Volunteer	2016 - Present
St. Vincent de Paul Clinic Volunteer Physician	07/2022 - Present

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 - 03/04/2017
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
Needs assessment and outcomes subcommittee Member	11/2014 - 03/01/2016
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 Responsibilities

Journal Editorial Responsibilities

American Journal of Rhinology & Allergy	
Editorial Board Member	07/2015 - 07/2017
Journal of Allergy and Clinical Immunology: In Practice	
Board Member	07/01/2014 - Present

Journal Other Responsibilities

Allergy	
Reviewer	01/2009 - Present
Annals of Allergy, Asthma & 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 & Rhinology	
Reviewer	11/03/2016 - 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	01/01/2016 - Present
Mayo Clinic Proceedings	
Article Reviewer	07/2008 - Present

Education Interests and Accomplishments

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 Co-director with Dr. Devyani Lal of ENT for annual CME event that attracts world experts and 100 attendees/year Mayo School CME	03/2013 - 03/2018
AAAAI HEDQ Quality improvement web site We created a web site with QI resources and a platform for QI project registry within the Allergy-Immunology field	01/2014 - 01/2016
Patient Centered Care Domain, Co-leader 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	07/2014 - Present
AAAAI Asthma Practice Improvement Module Tool for members to obtain MOC and improve their asthma management	10/2016 - 10/2017

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	04/2015

Mayo	
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	03/2019

Mayo Clinic	
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 Mayo Clinic	10/2019
Biologics for Nasal Polyposis Allergy Grand Rounds Mayo Clinic Phoenix, Arizona	02/2020
New Asthma Guidelines Medicine Grand Rounds Mayo Clinic Jacksonville, Florida	07/2020
Uncommon Allergy-Immunology Problems Allergy Grand Rounds Mayo Clinic Phoenix, Arizona	08/2020
Asthma Internal Medicine Residents' Noon Conference Mayo Clinic Phoenix, Arizona	08/2020

Mentorship

Harish, Amitha (Allergy/Immunology Fellow) Description: Current Status: Private Practice Allergy, Portsmouth, NH Outcome: 1 presentation at a national meeting	01/2008 - 01/2010
Shah, Kunal (Allergy/Immunology Fellow) Description: Current Status: Staff allergist, Mayo Clinic Southwest Region, Mankato, MN Outcome: 2 abstract presentations at national meetings, 1 original publication in a peer-reviewed journal	01/2008 - 01/2010
Elias, Martha (Allergy/Immunology Fellow) Description: Current Status: Assistant Professor of Medicine and Pediatrics, Dartmouth University, Lebanon, NH Outcome: 2 abstracts presented together at national meetings	01/2008 - 01/2011
Fox, Stephanie (Allergy/Immunology Fellow) Description: Current Status: Staff Allergist, HealthEast, St Paul, MN Outcome: 2 Abstract Presentations at national meetings	07/2009 - 06/2011
Patel, Sujan (Allergy/Immunology Fellow) Description: Current Status: Assistant Professor of Allergy and Immunology, New York Eye and Ear Infirmary, New York, NY, Staff allergist Outcome: 2 abstracts presented at national meetings	01/2010 - 01/2012
Podjasek, Jenna (Allergy/Immunology Fellow) Description: Current Status: Private Practice, A-I, Chicago, IL Outcome: 1 abstract presented at a national meeting; 2 original articles submitted for publication	01/2011 - 07/2013
Samant, Shefali (Allergy/Immunology Fellow) Description: Current Status: Currently at staff at Kaiser Permanente Southern California and active academically	01/2011 - 07/2013

Outcome: 3 abstracts at national meetings; 3 original manuscripts submitted

Bauer MD, Cindy (Clinical Mentee) 07/2013 - Present
Description:
Current Status: Clinical Associate Professor of Pediatrics, Assistant Professor of Medicine (Mayo Clinic), Clinical Professor of Pediatrics (University of Arizona), and Staff Allergist, Phoenix Children's Hospital
Outcome: 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 together.

Davis, Destinee 07/2013 - 03/2018
Description:
Current Status: Physician's Assistant Student
Outcome: Presentation at PCH research day; Admitted to PA school

Hines, Brittany (Resident Mentee) 07/2013 - 06/2018
Description:
Current Status: Allergy-Immunology Fellow at Mayo Clinic
Outcome: 2 abstracts presented at national meetings

Gionfriddo, Michael (Research Mentee) 01/2014 - 01/2017
Description:
Current Status: Investigator I, Center for Pharmacy Innovation and Outcomes, Geisinger Precision Health Center, Forty-Fort, PA
Outcome: 4 original manuscripts written together, served on PhD thesis committee prior to his current faculty position

Wright, Benjamin (Research Mentee) 07/2015 - Present
Description:
Current Status: Assistant Professor of Medicine (Mayo) and Clinical Professor of Pediatrics (University of Arizona), and Staff Allergist-Immunologist, Phoenix Children's Hospital
Outcome: Clinical research mentee, meet weekly, multiple IRB protocols, research presentations, and publications

Doyle, Alfred (Postdoctoral Research Fellow) 07/2017 - Present
Description:
Current Status: Principal Technologist
Outcome: Multiple papers/presentations

Jacobsen, Elizabeth 07/2017 - Present
Description:
Current Status: Associate Consultant I
Outcome: Multiple papers/presentations

Freeman, Catherine (Allergy/Immunology Fellow) 07/2019 - Present
Description:
Current Status: Allergy-Immunology Fellow
Outcome: Multiple papers/presentations

Maddux, Jacob (Allergy/Immunology Fellow) 07/2019 - Present
Description:
Current Status: Allergy-Immunology Fellow
Outcome: Multiple papers/presentations

Lam, Regina (Medical Student) 01/2020 - Present
Description: Mentor for Masters of Science of Health Care Delivery Degree
Current Status: Mayo Clinic Alix School of Medicine - Arizona
Outcome:

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 02/2011

Research certificate program, completed >12 credits in courses like statistics, epidemiology, trial design, ethics, etc. Center for Translational Science Activity, Mayo Clinic Rochester, Minnesota	
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 Oxentenکو, 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	04/2019

Take 5 Video - Allergy Division Meeting	
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

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

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
Research Committee	
Member As a committee member, we met monthly to review research issues directly related to the allergy division	01/2008 - 06/2012
Vaccine Allergy Clinic	
Physician Leader We started a vaccine allergy clinic in response to patient and institution need	01/2009 - 06/2012
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

Mayo Clinic in Arizona

Mayo Clinic Arizona Committees

Executive Operations Team - Arizona

Research Operations Management Team - Arizona

Clinical Research Subcommittee

Clinical Trial Review Group

Member

01/2017 - Present

Multidisciplinary Disease Oriented Group (DOG)

Member

07/2012 - Present

Vice Chair

12/2014 - 12/2016

Chair

01/2017 - 01/2020

Activities at Other Institutions

Arizona State Allergy Society

Member

2012 - Present

Phoenix Children's Hospital Breathmobile

Research Director

2016 - Present

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

2008

More Than 30 Minutes After the Injection

American College of Allergy, Asthma & Immunology (ACAAI)

Philadelphia, Pennsylvania

Allergen immunotherapy education project: a randomized study of a web based

01/2009

intervention Allergy and Immunology Program Directors' Meeting San Antonio, Texas	
Medication interference with allergy skin tests: Which medications are true culprits? American College of Allergy, Asthma, and Immunology Miami Beach, Florida	2009
Negative vaccine allergy skin testing strongly predicts future vaccine tolerance American College of Allergy, Asthma, and Immunology Miami Beach, Florida	2009
Smell disturbance distinguishes CRS from NAR in an allergy-based subspecialty clinic for patients with sinonasal symptoms American College of Allergy, Asthma, and Immunology Miami Beach, Florida	2009
False positive skin tests to influenza vaccine are more common in patients with egg allergy than in patients without egg allergy American College of Allergy, Asthma, and Immunology (ACAAI) Phoenix, Arizona	2010
Systemic mediator release in systemic and large local reactions to subcutaneous allergen immunotherapy American College of Allergy, Asthma, and Immunology (ACAAI) Phoenix, Arizona	2010
How Commonly does symptom severity vary by season in nonallergic rhinitis American College of Allergy, Asthma, and Immunology Boston, Massachusetts	2011
The right dose allergen immunotherapy project: Establishing error rates and process mapping American Academy of Allergy, Asthma, and Immunology (AAAAI) San Francisco, California	2011
A randomized controlled trial of a web-based educational intervention for teaching allergen immunotherapy American Academy of Allergy, Asthma, and Immunology (AAAAI) San Francisco, California	03/2011
The risk of asthma exacerbation after stopping low-dose inhaled corticosteroids: a systematic review and meta-analysis of randomized controlled trials AAAAI Annual Meeting Anaheim, California	03/2012
Practical tips for accurate diagnosis of allergy and immunology disorders Presented twice Internal Medicine Update Sedona, Arizona	10/2015
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	07/2018

Coronado, California	
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
Poster	
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 β -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 & Geriatrics 10/2015
Arizona Asthma Coalition Meeting
Mesa, Arizona

A Maricopa County Study of Utilization and Outcomes Among Children with Asthma and Medicaid Insurance 04/2016

Phoenix Children's Research Day

Allergy the New and the Shiny 05/2019
Arizona State University Grand Rounds
Tempe, Arizona

Poster

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

Unclassified

Oral

Chronic cough: Difficult Cases 03/2012
AAAAI
San Francisco, California

Advances in allergen immunotherapy and upper airway diseases 05/2012
AAAAI Webinar
AAAAI

Quality Improvement and Safety in Allergy and Immunology 02/2013
AAAAI
San Antonio, Texas

Visiting Professorship

Visiting Professorships

Cleveland Clinic 10/08/2013
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

Clinical Practice, Interests, and Accomplishments

Clinical Practice: Adult and pediatric allergy, asthma and immunology Clinical Interests: Chronic rhinosinusitis; Nasal polyposis; 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)

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

Quality Initiatives

Quality

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

Research Grants Awarded

Active Grants**Federal sub award**

Program Director / Principal Investigator	Precision Interventions for Severe Asthma (PreclSE) - CORE. Funded by National Heart, Lung, and Blood Institute. Funded by National Heart, Lung, and Blood Institute. (HL139054)	07/2019 - 06/2024
Program Director / Principal Investigator	Precision Interventions for Severe Asthma (PreclSE). Funded by National Institutes of Health. Funded by National Institutes of Health. (HL138998)	07/2019 - 06/2027
Program Director / Principal Investigator	Southwest Health Equity Research Collaborative (SHERC): Gut Microbiome Manipulation for Treatment of Asthma: Southwest Health Equity Research Collaborative (SHERC). Funded by National Institutes of Health. Funded by National Institutes of Health. (U54 MD012388)	09/2022 - 05/2027

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. 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. 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. 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. 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. 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. 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. 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. Funded by Flinn Foundation. (Subagreement No. 1003860-01)	11/2018 - 07/2019
Program Director / Principal Investigator	Data, Modeling, and Coordination Center for PreclSE Network. Funded by National Institutes of Health. Funded by National Institutes of Health. (U24HL138998)	01/2020 - 06/2021

Foundation

Program Director / Principal Investigator	Identifying biomarkers that predict systemic reactions to allergen immunotherapy. Funded by American College of Allergy, Asthma, and Immunology. Funded by American College of Allergy, Asthma, and Immunology. (ACAAI 001)	11/2010 - 10/2012
Co-Investigator	A Phase 2, Multicenter, Randomized, Double-blind, Placebo-controlled Study to Evaluate the Efficacy and Safety of Dupilumab and Milk Oral Immunotherapy for the Treatment of Patients with Cow's Milk Allergy: Modifying Adverse Gastrointestinal Complications During Milk Oral Immunotherapy (MAGIC). Funded by Stanford University. Funded by Stanford University. (Stanford Milk Allergy)	01/2021 - 12/2022

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. 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. 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. 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. 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. 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. 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. 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. Funded by Department of Medicine Team Science. ()	09/2021 - 08/2022
Co-Investigator	Comparison between ACT and ACA in Children. Funded by SGP - Small Grants Program <\$10K. Funded by SGP - Small Grants Program <\$10K	04/2011 - 04/2013

Other

Question Writer: American Board of Pediatrics

11/2009

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