

# Curriculum Vitae and Bibliography

## Matthew A Rank, MD

### 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

### 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

|  |                         |
|--|-------------------------|
| <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<br>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  | 11/01/2010 - 10/31/2011 |
| <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 | 07/01/2012 - 06/30/2014 |
| <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                 |

## Previous Professional Positions and Major Appointments

|   |                         |
|---|-------------------------|
| <b>Instructor of Medicine</b> - Mayo Clinic College of Medicine and Science   | 06/01/2008 - 04/30/2010 |
| <b>Senior Associate Consultant</b> - Division of Allergic Diseases, Department of Internal Medicine, Mayo Clinic, Rochester, Minnesota  | 06/28/2008 - 06/21/2011 |
| <b>Assistant Professor of Medicine</b> - Mayo Clinic College of Medicine and Science  | 05/01/2010 - 08/31/2015 |
| <b>Consultant</b> - Division of Allergic Diseases, Department of Internal Medicine, Mayo Clinic, Rochester, Minnesota   | 06/22/2011 - 07/12/2012 |
| <b>Co-director, Multidisciplinary Clinic for Challenging Sinus Disease</b> - Department of Otolaryngology and Medicine, Phoenix, Arizona<br>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<br>Research Scholars Program  | 07/2015 - 06/2021       |
| <b>Associate Professor of Medicine</b> - Mayo Clinic College of Medicine and Science  | 09/01/2015 - 09/30/2020 |
| <b>Associate Program Director</b> - Allergy-Immunology Fellowship Training Program, Mayo Clinic, Phoenix, Arizona   | 07/2016 - 06/2022       |
| <b>Interim Chair</b> - 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<br>Volunteer             | 2016 - Present    |
| St. Vincent de Paul Clinic<br>Volunteer Physician | 07/2022 - Present |

## Professional Memberships and Societies

### Professional Memberships and Services

|   |   |
|---|---|
| AcademyHealth<br>Member   | 01/2012 - 01/2014   |
| American Academy of Allergy, Asthma and Immunology<br>Member  | 03/2007 - Present   |
| Fellow<br>Annual Meeting Program Subcommittee<br>Member   | 03/2011 - Present<br>11/2014 - 11/2020  |
| Health Care Delivery and Quality Planning Committee<br>Member<br>Secretary/Treasurer<br>Vice Chair<br>Chair | 07/2012 - Present<br>11/2014 - 03/04/2017<br>03/2017 - 03/2019<br>03/2019 - 03/2021 |
| Immunotherapy Committee<br>Member<br>Rhinitis, Rhinosinusitis, and Ocular Allergy Committee<br>Member       | 01/2008 - 11/2014<br>01/2010 - 11/2014  |
| Interest Section Coordinating Committee<br>Member   | 11/2014 - 11/2019   |
| Joint Task Force for Practice Parameters<br>Member  | 10/2016 - Present   |
| Needs assessment and outcomes subcommittee<br>Member  | 11/2014 - 03/01/2016  |
| Quality Measures Stewardship Committee<br>Chair   | 03/2023 - Present   |
| American College of Allergy, Asthma & Immunology<br>Member<br>Fellow  | 01/2006 - Present<br>06/2019 - Present  |
| American Thoracic Society<br>Member   | 01/2008 - 01/2012   |
| Food Allergy and Anaphylaxis Network<br>Member  | 01/2008 - 01/2012   |

## Journal Responsibilities

### Journal Editorial Responsibilities

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

### Journal Other Responsibilities

|   |                   |
|---|-------------------|
| Allergy<br>Reviewer                                   | 01/2009 - Present |
| Annals of Allergy, Asthma & Immunology<br>Reviewer    | 01/2007 - Present |
| Clinical and Experimental Allergy<br>Article Reviewer | 07/2012 - Present |
| European Respiratory Journal<br>Referee/Reviewer      | 07/2012 - Present |

|   |                      |
|---|----------------------|
| International Forum for Allergy & Rhinology<br>Reviewer                     | 11/03/2016 - Present |
| Journal of Allergy and Clinical Immunology<br>Article Reviewer              | 07/2014 - Present    |
| Journal of Allergy and Clinical Immunology: In Practice<br>Article Reviewer | 07/2012 - Present    |
| Laryngoscope<br>Reviewer  | 01/01/2016 - Present |
| Mayo Clinic Proceedings<br>Article Reviewer                                 | 07/2008 - Present    |

## Education Interests and Accomplishments

### Mentorship

|  |                   |
|--|-------------------|
| Harish, Amitha (Allergy/Immunology Fellow)<br><b>Description:</b><br><b>Current Status:</b> Private Practice Allergy, Portsmouth, NH<br><b>Outcome:</b> 1 presentation at a national meeting   | 01/2008 - 01/2010 |
| Shah, Kunal (Allergy/Immunology Fellow)<br><b>Description:</b><br><b>Current Status:</b> Staff allergist, Mayo Clinic Southwest Region, Mankato, MN<br><b>Outcome:</b> 2 abstract presentations at national meetings, 1 original publication in a peer-reviewed journal  | 01/2008 - 01/2010 |
| Elias, Martha (Allergy/Immunology Fellow)<br><b>Description:</b><br><b>Current Status:</b> Assistant Professor of Medicine and Pediatrics, Dartmouth University, Lebanon, NH<br><b>Outcome:</b> 2 abstracts presented together at national meetings  | 01/2008 - 01/2011 |
| Fox, Stephanie (Allergy/Immunology Fellow)<br><b>Description:</b><br><b>Current Status:</b> Staff Allergist, HealthEast, St Paul, MN<br><b>Outcome:</b> 2 Abstract Presentations at national meetings  | 07/2009 - 06/2011 |
| Patel, Sujan (Allergy/Immunology Fellow)<br><b>Description:</b><br><b>Current Status:</b> Assistant Professor of Allergy and Immunology, New York Eye and Ear Infirmary, New York, NY, Staff allergist<br><b>Outcome:</b> 2 abstracts presented at national meetings   | 01/2010 - 01/2012 |
| Podjasek, Jenna (Allergy/Immunology Fellow)<br><b>Description:</b><br><b>Current Status:</b> Private Practice, A-I, Chicago, IL<br><b>Outcome:</b> 1 abstract presented at a national meeting; 2 original articles submitted for publication   | 01/2011 - 07/2013 |
| Samant, Shefali (Allergy/Immunology Fellow)<br><b>Description:</b><br><b>Current Status:</b> Currently at staff at Kaiser Permanente Southern California and active academically<br><b>Outcome:</b> 3 abstracts at national meetings; 3 original manuscripts submitted   | 01/2011 - 07/2013 |
| Bauer MD, Cindy (Clinical Mentee)<br><b>Description:</b><br><b>Current Status:</b> 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<br><b>Outcome:</b> 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. | 07/2013 - Present |
| Davis, Destinee<br><b>Description:</b><br><b>Current Status:</b> Physician's Assistant Student   | 07/2013 - 03/2018 |

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|---|-------------------|
| <b>Outcome:</b> Presentation at PCH research day; Admitted to PA school   |                   |
| Hines, Brittany (Resident Mentee)   | 07/2013 - 06/2018 |
| <b>Description:</b>   |                   |
| <b>Current Status:</b> Allergy-Immunology Fellow at Mayo Clinic   |                   |
| <b>Outcome:</b> 2 abstracts presented at national meetings  |                   |
| Gionfriddo, Michael (Research Mentee)   | 01/2014 - 01/2017 |
| <b>Description:</b>   |                   |
| <b>Current Status:</b> Investigator I, Center for Pharmacy Innovation and Outcomes, Geisinger Precision Health Center, Forty-Fort, PA   |                   |
| <b>Outcome:</b> 4 original manuscripts written together, served on PhD thesis committee prior to his current faculty position   |                   |
| Wright, Benjamin (Research Mentee)  | 07/2015 - Present |
| <b>Description:</b>   |                   |
| <b>Current Status:</b> Assistant Professor of Medicine (Mayo) and Clinical Professor of Pediatrics (University of Arizona), and Staff Allergist-Immunologist, Phoenix Children's Hospital |                   |
| <b>Outcome:</b> Clinical research mentee, meet weekly, multiple IRB protocols, research presentations, and publications   |                   |
| Doyle, Alfred (Postdoctoral Research Fellow)  | 07/2017 - Present |
| <b>Description:</b>   |                   |
| <b>Current Status:</b> Principal Technologist   |                   |
| <b>Outcome:</b> Multiple papers/presentations   |                   |
| Jacobsen, Elizabeth   | 07/2017 - Present |
| <b>Description:</b>   |                   |
| <b>Current Status:</b> Associate Consultant I   |                   |
| <b>Outcome:</b> Multiple papers/presentations   |                   |
| Freeman, Catherine (Allergy/Immunology Fellow)  | 07/2019 - Present |
| <b>Description:</b>   |                   |
| <b>Current Status:</b> Allergy-Immunology Fellow  |                   |
| <b>Outcome:</b> Multiple papers/presentations   |                   |
| Maddux, Jacob (Allergy/Immunology Fellow)   | 07/2019 - Present |
| <b>Description:</b>   |                   |
| <b>Current Status:</b> Allergy-Immunology Fellow  |                   |
| <b>Outcome:</b> Multiple papers/presentations   |                   |
| Lam, Regina (Medical Student)   | 01/2020 - Present |
| <b>Description:</b> Mentor for Masters of Science of Health Care Delivery Degree  |                   |
| <b>Current Status:</b> Mayo Clinic Alix School of Medicine - Arizona  |                   |
| <b>Outcome:</b>   |                   |

### Academic Career Development

|   |         |
|---|---------|
| Faculty Enhancement and Education Development Program in Core Clinical Teaching<br>Mayo Clinic<br>Rochester, Minnesota  | 01/2010 |
| Certificate in Clinical and Translational Science<br>Research certificate program, completed >12 credits in courses like statistics, epidemiology, trial design, ethics, etc.<br>Center for Translational Science Activity, Mayo Clinic<br>Rochester, Minnesota | 02/2011 |
| Instructional Framework: Novice to Experts<br>Faculty Development Workshop<br>Mayo Medical School Arizona Campus<br>Scottsdale, Arizona   | 08/2015 |
| Helping Struggling Learners: A SOAP Approach<br>Faculty Development Workshop<br>Mayo Medical School Arizona Campus<br>Scottsdale, Arizona   | 09/2015 |
| Artistic Renderings of MMS Arizona – Human Factors  | 11/2015 |

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|--|---------|
| Mayo Medical School Arizona Campus<br>Scottsdale, Arizona  |         |
| FERPA<br>Faculty Development Workshop<br>Mayo Medical School Arizona Campus<br>Scottsdale, Arizona   | 11/2015 |
| AAAAI Leadership Institute<br>Faculty Development - Developed to cultivate next generation of AAAAI leaders;<br>group session participation was by invitation<br>AAAAI Annual Meeting<br>Houston, Texas          | 11/2015 |
| AAAAI Leadership Institute<br>Faculty Development - Developed to cultivate next generation of AAAAI leaders;<br>group session participation was by invitation<br>AAAAI Annual Meeting<br>Los Angeles, California | 11/2016 |
| Distilling Your Message - Walter Dishell<br>Faculty Development  | 11/2016 |
| Enough About Burnout: Let's Talk Well Being and the Role of Coaching - Kerri<br>Palamara<br>Faculty Development<br>Mayo Clinic<br>Phoenix, Arizona   | 06/2017 |
| Teaching Diagnostic Reasoning in the Clinical Setting - Adam Cifu, MD<br>Faculty Development<br>Mayo Clinic<br>Phoenix, Arizona  | 11/2017 |
| Medical Reversal - Adam Cifu, MD<br>Faculty Development<br>Mayo Clinic<br>Phoenix, Arizona   | 11/2017 |
| One Minute Preceptor<br>Faculty Development<br>Take 5 Video  | 11/2017 |
| How to Write Letters of Recommendation - Amy Oxentenko, MD<br>Faculty Development<br>Take 5 Video  | 02/2018 |
| Selecting for Emotional Intelligence in Interviews - Josyln Vaught<br>Faculty Development Workshop<br>Mayo Clinic School of Graduate Medical Education<br>Scottsdale, Arizona                                    | 07/2018 |
| Teaching, Self Directed Learning & Reflection - Rick Nishimura, MD<br>Faculty Development<br>Take 5 Video - Allergy Division Meeting   | 04/2019 |
| Allergy Tri-Site - Dr. Lily Pien<br>Faculty Development Series<br>Mayo Clinic Tuesday Case Conference  | 10/2019 |
| Teaching High Value Care - Stephanie Starr, MD<br>Faculty Development<br>Take 5 Video  | 11/2019 |
| Overcoming Unconscious Bias<br>Faculty Development<br>Online Module  | 06/2020 |
| Stereotype Threat<br>Faculty Development<br>Online Module  | 06/2020 |
| Strategies to Support Learners Seeking Help - Lotte Dyrbye, MD, MHPE   | 09/2020 |

Faculty Development  
Take 5 Video

Joy of Teaching - Mary Hedges, MD  
Faculty Development  
Take 5 Video

01/2021

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

### **Mayo Clinic**

Arizona Center for the Science of Healthcare Delivery

Member

11/2014 - 2019

Review requests for research funding as part of a 5 person committee for projects specific to the science of healthcare delivery at MCA

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

06/2008 - 06/2012

I led the development of a specialty clinic for rhinitis/sinusitis, including the procedural development of rhinoscopy in the division of allergy

Research Committee

Member

01/2008 - 06/2012

As a committee member, we met monthly to 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

### **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<br>Member                       | 2012 - Present |
| Phoenix Children's Hospital Breathmobile<br>Research Director | 2016 - Present |

**Presentations Extramural****National or International****Invited**

|   |         |
|---|---------|
| Aspirin and antibiotic desensitization<br>AAAAI Annual Meeting<br>Houston   | 02/2015 |
| Quality and Safety in Allergy<br>AAAAI annual meeting<br>Houston, Texas   | 02/2015 |
| GRADing Eosinophilic Esophagitis Guidelines for the Allergist<br>Plenary Presentation<br>AAAAI National Meeting<br>Houston, Texas | 11/2019 |
| Biologics in Nasal Polyps: Who & When<br>ENT Update 2020 & Tackling Problematic Sinusitis 2020<br>Sedona, Arizona                 | 03/2020 |
| ENT-Allergy Partnership for CRS Rx<br>ENT Update 2020 & Tackling Problematic Sinusitis 2020<br>Sedona, Arizona                    | 03/2020 |

**Oral**

|  |         |
|--|---------|
| Nearly Half of Systemic Reactions (SRs) to Allergen Immunotherapy (AIT) Occurred<br>More Than 30 Minutes After the Injection<br>American College of Allergy, Asthma & Immunology (ACAAI)<br>Philadelphia, Pennsylvania | 2008    |
| Allergen immunotherapy education project: a randomized study of a web based<br>intervention<br>Allergy and Immunology Program Directors' Meeting<br>San Antonio, Texas   | 01/2009 |
| Medication interference with allergy skin tests: Which medications are true culprits?<br>American College of Allergy, Asthma, and Immunology<br>Miami Beach, Florida   | 2009    |
| Negative vaccine allergy skin testing strongly predicts future vaccine tolerance<br>American College of Allergy, Asthma, and Immunology<br>Miami Beach, Florida  | 2009    |
| Smell disturbance distinguishes CRS from NAR in an allergy-based subspecialty<br>clinic for patients with sinonasal symptoms<br>American College of Allergy, Asthma, and Immunology<br>Miami Beach, Florida            | 2009    |
| False positive skin tests to influenza vaccine are more common in patients with egg<br>allergy than in patients without egg allergy<br>American College of Allergy, Asthma, and Immunology (ACAAI)<br>Phoenix, Arizona | 2010    |
| Systemic mediator release in systemic and large local reactions to subcutaneous<br>allergen immunotherapy<br>American College of Allergy, Asthma, and Immunology (ACAAI)<br>Phoenix, Arizona                           | 2010    |
| How Commonly does symptom severity vary by season in nonallergic rhinitis<br>American College of Allergy, Asthma, and Immunology<br>Boston, Massachusetts  | 2011    |



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|---|------------|
| The right dose allergen immunotherapy project: Establishing error rates and process mapping<br>American Academy of Allergy, Asthma, and Immunology (AAAAI)<br>San Francisco, California   | 2011       |
| A randomized controlled trial of a web-based educational intervention for teaching allergen immunotherapy<br>American Academy of Allergy, Asthma, and Immunology (AAAAI)<br>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<br>AAAAI Annual Meeting<br>Anaheim, California                                 | 03/2012    |
| Practical tips for accurate diagnosis of allergy and immunology disorders<br>Presented twice<br>Internal Medicine Update<br>Sedona, Arizona   | 10/2015    |
| Update on Asthma Treatment: Evidence-Based Recommendations for 2016<br>"Asthma Step Down"<br>Session #4815: (Symposium presentation)<br>American Academy of Allergy, Asthma, and Immunology Annual Meeting<br>Los Angeles, California | 2016       |
| Diagnostic testing in recalcitrant chronic rhinosinusitis<br>Tackling Problematic Sinusitis 2016<br>Phoenix, Arizona  | 03/2016    |
| Opportunities to Improve Asthma Care in Arizona: A Role for All of Us<br>Keynote<br>Arizona Asthma Coalition Annual Meeting   | 10/2017    |
| How to Link your Chronic Rhinosinusitis Evaluation to Actionable Treatment<br>Seminar<br>AAAAI, 2018  | 03/05/2018 |
| Aspirin Exacerbated Respiratory Disease<br>Mayo Clinic Allergy CME Course<br>Coronado, California   | 07/2018    |
| Re-ordering Treatment for Atopic Dermatitis<br>Mayo Clinic Allergy CME Course<br>Coronado, California   | 07/2018    |
| New Biologicals for Asthma<br>Vasculitis Foundation<br>Phoenix, Arizona   | 04/2019    |
| Factors Associated with Dysfunctional Breathing<br>Journal of Allergy and Clinical Immunology In Practice Journal Club Webinar  | 06/2019    |
| Asthma Yardstick: Measure Up!<br>ACAAI Webinar  | 07/2019    |
| Top 10 Allergy Topics<br>Mayo Clinic CME<br>Sedona, Arizona   | 10/2019    |
| Diet vs. Steroids for Eosinophilic Esophagitis<br>AAAAI National Meeting<br>Houston, Texas  | 11/2019    |
| The Asthma Step-down Yardstick<br>AAAAI National Meeting<br>Houston, Texas  | 11/2019    |
| <b>Poster</b>   |            |
| A Case of Food allergy Due To Longan Fruit<br>American College of Allergy, Asthma & Immunology (ACAAI)<br>Philadelphia, Pennsylvania  | 2006       |

|  |         |
|--|---------|
| Identification of Risk Factors for Systemic Reactions to Allergen Immunotherapy<br>American College of Allergy, Asthma & Immunology (ACAAI)<br>Dallas, Texas   | 2007    |
| Management of Asthma Exacerbation in a Patient With Wiskott Aldrich Syndrome<br>American College of Allergy, Asthma & Immunology (ACAAI)<br>San Diego, California  | 2007    |
| Antidepressant and Anxiolytic Prescription in Patients on Allergen Immunotherapy<br>American College of Allergy, Asthma & Immunology (ACAAI)<br>Philadelphia, Pennsylvania   | 2008    |
| Cardioselective $\beta$ -blocker Prescription in Aged Asthmatics<br>American Thoracic Society International Meeting<br>Toronto, Ontario, Canada  | 2008    |
| Activation of Dendritic Cells by IL-33 initiates a Th2 response<br>American Academy of Allergy, Asthma, and Immunology (AAAAI)<br>Washington, District of Columbia   | 2009    |
| Antihistamine interference with allergy skin tests: how long should we wait?<br>American Academy of Allergy, Asthma, and Immunology (AAAAI)<br>Washington, District of Columbia  | 2009    |
| Desensitization to trimethoprim/sulfamethoxazole in non-HIV patients<br>American Academy of Allergy, Asthma, and Immunology (AAAAI)<br>Washington, District of Columbia  | 2009    |
| A clinical prediction rule for long term outcomes after stepping down asthma<br>controller medications<br>KI-Mayo Scientific Meeting<br>Rochester, Minnesota   | 09/2014 |
| Adherence to Topical Medications for Chronic Rhinosinusitis: Medication<br>Possession Ratio and Description of Adherence Barriers<br>American Academy of Allergy, Asthma, and Immunology 2016<br>Los Angeles, California   | 2016    |
| Nasal and Pharyngeal Eosinophil Peroxidase Levels Represent Surrogate<br>Biomarkers for the Presence of Lower Airway Eosinophils in Adults with Poorly<br>Controlled Asthma<br>American Academy of Allergy, Asthma, and Immunology 2016<br>Los Angeles, California | 02/2016 |
| Omalizumab Utilization Trends for Asthma in the U.S. from 2003-2015<br>AAAAI Annual Meeting<br>Atlanta, Georgia  | 02/2017 |
| Step Down of Asthma Biologics<br>AcademyHealth<br>Virtual  | 06/2019 |
| Asthma Biologic Persistence<br>AAAAI Annual Meeting<br>Virtual   | 03/2020 |
| <b>Regional</b>  |         |
| <b>Invited</b>   |         |
| Medication Allergies: The Essentials for Busy Providers<br>NP/PA Mayo Clinic Review<br>Rochester, Minnesota  | 09/2011 |
| Diagnosis and Management of Chronic Rhinosinusitis<br>Mayo Clinical Reviews 2011<br>Rochester, Minnesota   | 10/2011 |
| United Airways: An Integrated Approach to Airway Disorders<br>Mayo Clinical Reviews 2011<br>Rochester, Minnesota   | 10/2011 |
| 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 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

**Research Grants Awarded****Active Grants****Federal**

Co-Investigator Type 2 Innate Lymphoid Cells and Asthma. Funded by National 07/2020 - 06/2023  
Heart, Lung, and Blood Institute. (R01 HL117823)

**Federal sub award**

|   |  |                   |
|---|--|-------------------|
| Program Director / Principal Investigator | Precision Interventions for Severe Asthma (PreclSE) - CORE. Funded by National Heart, Lung, and Blood Institute. (UG1 HL139054)                                      | 07/2019 - 06/2024 |
| Program Director / Principal Investigator | Precision Interventions for Severe Asthma (PreclSE). Funded by National Institutes of Health. (5 U24HL138998-03)   | 07/2019 - 06/2027 |
| Program Director / Principal Investigator | Southwest Health Equity Research Collaborative (SHERC): Gut Microbiome Manipulation for Treatment of Asthma. Funded by National Institutes of Health. (U54 MD012388) | 09/2022 - 08/2026 |

**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 |

**Federal sub award**

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| 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 PreclSE Network. Funded by National Institutes of Health. (U24HL138998)                  | 01/2020 - 06/2021 |

**Foundation**

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| 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 |
| 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. Funded by Stanford University. (Stanford Milk | 01/2021 - 12/2022 |

Allergy)

**Industry**

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| Program<br>Director /<br>Principal<br>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**

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| Principal<br>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 |
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| Program<br>Director /<br>Principal<br>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 |
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| Program<br>Director /<br>Principal<br>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 |
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| Program<br>Director /<br>Principal<br>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 |
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| Program<br>Director /<br>Principal<br>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 |
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| Program<br>Director /<br>Principal<br>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 |
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| Program<br>Director /<br>Principal<br>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 |
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| Program<br>Director /<br>Principal<br>Investigator | Novel in-vitro nanoallergen-IgE-testing for drug allergy diagnosis. Funded by Department of Medicine Team Science. () | 09/2021 - 08/2022 |
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| Co-Investigator | Comparison between ACT and ACA in Children. Funded by SGP - Small Grants Program <\$10K | 04/2011 - 04/2013 |
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**Other**

|   |         |
|---|---------|
| Question Writer: American Board of Pediatrics | 11/2009 |
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3. **Rank MA**, Park MA. Anaphylaxis to piperacillin-tazobactam despite a negative penicillin skin test. *Allergy.* 2007 Aug; 62(8):964-5. PMID: 17620077 DOI: 10.1111/j.1398-9995.2007.01418.x
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**Letters**

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