Megan N. Ballinger, Ph.D.

473 West 12th Ave
305A Davis Heart and Lung Research Institute
Columbus, OH 43210
(614) 292-5678
Megan.Ballinger@osumc.edu

Last updated: 8/15/2022

Current Position

Associate Professor, Department of Internal Medicine — 2022-present
Division of Pulmonary, Critical Care and Sleep Medicine
The Ohio State University Wexner College of Medicine
Columbus, OH

Associate Professor (Courtesy Appointment), — 2022- present
Department of Microbial Infection and Immunity
The Ohio State University Wexner College of Medicine
Columbus, OH

Education

Post-doctoral Research Fellowship — 2007-2011
University of Michigan
Ann Arbor, MI

PhD in Immunology — 2002-2007
Program in Biomedical Sciences
University of Michigan
Ann Arbor, MI

Bachelors in Science (Honors)-Magna Cum Laude — 1998-2002
Major: Biological Sciences; Minor: Biochemistry
University of Toledo
Toledo, OH

Previous Academic Appointments

Assistant Professor (Courtesy Appointment), — 2021-2022
Department of Microbial Infection and Immunity
The Ohio State University Wexner College of Medicine
Columbus, OH

Assistant Professor, Department of Internal Medicine — 2017- 2022
Division of Pulmonary, Critical Care and Sleep Medicine
The Ohio State University Wexner College of Medicine
Columbus, OH

Research Assistant Professor — 2014-2017
Department of Internal Medicine
Division of Pulmonary, Critical Care and Sleep Medicine
The Ohio State University Wexner College of Medicine
Columbus, OH

Lecturer — 2012-2014
Department of Internal Medicine
Division of Pulmonary, Critical Care and Sleep Medicine
University of Michigan College of Medicine
Ann Arbor, MI

Professional Development

AHA Leaders Academy 9/2017
American Heart Association

Professional Memberships and Activities

American Association of Immunologist 2018-present
American Thoracic Society 2007-present
- Publication Policy Committee 5/2022-present
- ATS nominating Committee 7/2021-5/2022
- Respiratory Cell and Molecular Biology Program Committee Member 5/2021-present
- Designing Future ATS Conference Task Force Group Leader 1/2021-5/2022
- Program and Evaluation Committee Member 5/2019-5/2022
- **Chair** of Science and Innovation Planning Committee 5/2017-5/2018
- Allergy, Immunology and Inflammation Assembly Nominating Committee Member 5/2017-5/2020
- Member in Training and Transition Committee Member 5/2016-5/2021
- **Co-Chair** of Allergy, Immunology and Inflammation Assembly Early Career Professionals 12/2014-12/2017
- Allergy, Immunology and Inflammation Assembly Planning Committee Member 5/2010-5/2016
- Allergy, Immunology and Inflammation Assembly Membership Committee Member 6/2009-5/2017

American Association for the Advancement of Science 2008-2011

Editorial Board Appointments

Editorships or editorial board member

American Journal of Physiology-Lung Cellular and Molecular Physiology 2021-present
American Journal of Respiratory Cell and Molecular Biology 2019-present

Ad hoc reviewer

American Journal of Reparatory Cell and Molecular Biology, American Journal of Respiratory and Critical Care Medicine, American Journal of Physiology-Lung Cellular and Molecular Physiology, Bioengineering, BMC Pulmonary Medicine, Biomolecules, Cell Biology and Toxicology, Cell Death & Disease, Clinical Experimental Pharmacology and Physiology, Epigenetics, European Respiratory Journal, Experimental Gerontology, FASEB, Frontiers in Medicine, Infection and Immunity, Journal of Biological Chemistry, Journal of Clinical Investigation, JCI-Insight, Journal of Leukocyte Biology, Journal of Immunology, Mucosal Immunology, PLOS ONE, Science, Scientific Reports, Toxicology and Applied Pharmacology, Toxicology Sciences

Committee Assignments and Administrative Services

University service:

DHLRI Director Search Committee Member 3/2022-4/2022
The Ohio State University Wexner College of Medicine

Ad Hoc Grant Reviewer 3/2022
DHLRI Synergy Awards

Department of MI&I: Diversity, Equity and Inclusion Executive Committee Member 1/2022-present
The Ohio State University Wexner College of Medicine

Biomedical Sciences Undergraduate Major Admission Committee Member 1/2022-present
The Ohio State University Wexner College of Medicine

Women in Medicine and Science Executive Committee Member 4/2020-present
The Ohio State University Wexner College of Medicine

Chair of OSU Pulmonary Research Recruitment Committee 12/2019-5/2021
The Ohio State University Wexner College of Medicine

Biomedical Sciences Graduate Students Admission Committee Member The Ohio State University Wexner College of Medicine	10/2019-present
Medical Scientist Training Program Admission Committee Member The Ohio State University Wexner College of Medicine	9/2019-present
Women in Medicine and Science Media Subcommittee (**Co-Chair 4/2020-present**) The Ohio State University Wexner College of Medicine	4/2019-present
Ad Hoc Grant Reviewer OSU Davis Bremer/KL2 study section	2/2019
Cardiology Division Director Search Committee Member The Ohio State University Wexner College of Medicine	1/2019-6/2019
College of Medicine Elections and Appointment Committee Member The Ohio State University Wexner College of Medicine	5/2018-8/2020
Co-Chair of Comprehensive Transplant Center Biorepository Scientific Advisory The Ohio State University Wexner College of Medicine	7/2017-present
Co-chair of Pulmonary Research Conference Committee The Ohio State University Wexner College of Medicine	5/2017-present
Davis Heart and Lung Research Institute Education Committee Member The Ohio State University Wexner College of Medicine	5/2015-12/2020
Pulmonary and Critical Care Program and Evaluation Committee Member The Ohio State University Wexner College of Medicine	8/2014-present
Ohio State Medical School College of Medicine Admission Committee The Ohio State University Wexner College of Medicine	7/2014-5/2020
President's Advisory Committee on Women's Issue Committee Member University of Michigan College of Medicine	9/2013-1/2014
President of the University of Michigan Post-doctoral Association University of Michigan College of Medicine	6/2010-1/2012
University of Michigan Post-doctoral Association Board Member University of Michigan College of Medicine	1/2009-1/2012
Graduate Student Affairs Committee Member for Program in Immunology University of Michigan College of Medicine	9/2008-10/2013
Chair of Immunology Post-doctoral Association University of Michigan College of Medicine	6/2008-10/2013
Chair of Immunology Student Association University of Michigan College of Medicine	4/2005-7/2006

Non-University service:

Ad Hoc Reviewer NIH-ONES-NIEHS ZES LWJ-S	7/2022
Ad Hoc Reviewer NIH-LIRR study section	2/2022

Ad Hoc Reviewer — 11/2021
Canada Foundation for Innovation

Ad Hoc American Heart Association Grant Reviewer — 11/2021
Virology & Disease #1 (Immunology) Peer Review Committee

Ad Hoc NIH Grant Reviewer — 3/2021
NIH-NHLBI Special Emphasis Panel ZRG1-CVRS-R(3)

Ad Hoc NIH Grant Reviewer — 11/2020
NIH-NHLBI SBIR/STTR CVRS-J(11)

Ad Hoc NIH Grant Reviewer — 7/2020
NIH-NHLBI Special Emphasis Pane CVRS-N 03

Ad Hoc NIH Grant Reviewer — 7/2020
NIH-NHLBI SBIR/STTR CVRS-J(11)B

Ad Hoc Grant Reviewer — 6/2020
French National Agency

Ad Hoc Grant Reviewer — 3/2020
NIH-NHLBI Special Emphasis Panel ZRG1 CVRS-N (03)M

Ad Hoc NIH Grant Reviewer — 12/2019
NIH-NHLBI Special Emphasis Panel ZRG1-CVRS

Ad Hoc American Heart Association Grant Reviewer — 10/2019
Lung and Cardiac Arrest Fellowship Committee

Ad Hoc American Heart Association Grant Reviewer — 9/2018
Lung and Cardiac Arrest Fellowship Committee

Early Career NIH Grant Reviewer — 2/2017
NIH-LCMI study section

Educational Activities

Undergraduate, graduate and professional courses taught

Pathology 7847 — Spring 2022
Lecturer, OSU

Mastering the Biomedical Science Literature II (BIOMSCI 2892H) — Autumn 2021
Lecturer, OSU

Honors Research Experience I Course (BIOMSCI1 3891H) — Autumn 2021
Co-course director, OSU

Integrated Biomedical Science Senior Seminar (BSGP 7972) — Spring 2021, Autumn 2020, Spring 2020, Autumn 2019
Co-course director, OSU

Signature Program in Translation Science Curriculum (BSGP 8800.01) — Autumn 2018, 2017, 2016, 2015
Lecturer for Pulmonary Immunology and Inflammation, OSU

Curriculum and Workshop Development

Co-Chair for New Faculty Bootcamp — 4/2021-5/2021
American Thoracic Society (online due to COVID)

Co-Chair for Fellows-to-Faculty Bootcamp 5/2019
American Thoracic Society (Dallas, TX)

Continuing Education and Instructional Lectures:

Student Scholars Bench to Bedside: Asthma Case study 5/2022
Facilitator for American Thoracic Society (San Francisco, CA)

Parenting in Medicine and Science 5/2022
Panelist for American Thoracic Society (San Francisco, CA)

Goal setting, Building collaborations, Mentoring Do's and Don'ts 5/2022
The Challenging Mentor, Negotiating for Success
Faculty member for New Faculty Bootcamp (American Thoracic Society, San Francisco, CA)

Redefining Failure in Academic Careers 1/2022
Panelist for American Thoracic Society Core Training Session (Online due to COVID)

RCMB online symposium: Potpourri of pulmonary fibrosis 12/2021
Organizer and Moderator, American Thoracic Society (Online due to COVID)

Faculty Perspective on Postdoctoral Research Fellowship at OSU 4/2021
Panelists for Office of Postdoctoral Studies, OSU

Immunology Program Alumni Career Development Panel 3/2021
Panelists for Graduate Program in Immunology, University of Michigan

Importance of Professional Societies in Career Development 1/2021, 1/2022
Panelist for Pulmonary and Critical Care Fellowship program, OSU

Pulmonary Fibrosis Support Group Meeting: Research Update 12/2020
Panelists for Pulmonary Fibrosis Society, OSU

Gender and Diversity Barriers in Science 10/2020
Organizer and Facilitator for Davis Heart and Lung Institute Research Day, OSU

Forming relationships: Patients, Advocates and Scientists Working Together as a Team 7/2020
Organizer and Panelists for American Thoracic Society (online due to COVID)

Finding a Good Mentor 1/2020, 1/2021, 1/2022
Panelist for Pulmonary and Critical Care Fellowship program, OSU

Introduction to Laboratory Research Part 1 & 2 1/2020, 1/2021, 1/2022
Lecturer for Pulmonary and Critical Care Fellowship Program, OSU

DHLRI Connector Series: Updates from the Fibrosis Working Group 11/2019
Davis Heart and Lung Research Institute Work in Progress, OSU

Postdoctoral Research Recruitment: Faculty perspective 10/2019
Panelists for Office of Postdoctoral Studies, OSU

Tips and Tricks for getting the most out of ATS2019 5/2019
Organizer and panelist for American Thoracic Society (Dallas, TX)

Bridging the Gap: PhD Scientists in the Science and Innovative Center 5/2019
Organizer and panelist for American Thoracic Society (Dallas, TX)

Postdoctoral Research Recruitment: Faculty perspective 5/2019

Panelists for Office of Postdoctoral Studies, OSU

How I got here: keys to picking a good mentor 1/2019
Panelist for Pulmonary and Critical Care Fellowship program, OSU

DHLRI Connector Series: Fibrosis across Multiple Organs 11/2018
Davis Heart and Lung Research Institute Work in Progress, OSU

Updates with the Comprehensive Transplant Biorepository 10/2018
Speaker at Department of Surgery Grand Rounds, OSU

Using Social Media as a Tool not just a Toy 5/2018
Organizer and panelist for American Thoracic Society (San Diego, CA)

How to Survive in a Lean Funding Climate 5/2018
Panelist for Faculty, Achievement, Mentoring and Engagement, OSU

Strategies for Fellows and Early Career Faculty to get closer to Work-Life Balance 5/2017
Organizer and panelist for American Thoracic Society (Washington DC)

Why Choose a Career in Pulmonary Research 2/2017
Panelist for Pulmonary and Critical Care Fellowship program, OSU

Innate and Adaptive Immunity in Pulmonary and Critical Care Medicine 9/2016
Nationwide Children's Hospital Fellowship Program, NCH

Demystifying "What you want to be when you grow up"? 5/2016
Panelist for American Thoracic Society (San Francisco, CA)

Involvement in graduate/professional exams, theses and dissertations

Doctoral Student Dissertation Advisor:
Gina Torres Matias, BS 3/2021-present
Biomedical Sciences Graduate Program, OSU

Doctoral Student Dissertation Committee Member:
Rawan Makkawi, BS 11/2021-present
Molecular, Cellular and Developmental Biology, OSU

Michael Yaeger, BS 3/2021-present
Biomedical Sciences Graduate Program, OSU

Christopher Bobba, BS
Medical Scientists Training Program (MSTP), OSU 1/2017-4/2019

Doctoral Student Candidacy Examination Committee Member:
Trica Oyster, B.S. 12/2019
Biomedical Engineering PhD program, OSU

Master's Student plan B (advisor)
Derrick Herman, M.D. 9/2017-4/2019
College of Medicine Master's in Medical Science

Students/Trainees who worked in my lab:

Faculty Mentor for Biomedical Science Undergraduate Student: Dhishan Kashyap 5/2022-present

Faculty Mentor for Pulmonary and Critical Care Fellow: Matthew Huang, M.D. 7/2021-present

Faculty Mentor for Biomedical Sciences Graduate Student: Gina Torres Matias, B.S.	3/2021-present
Faulty Mentor for Postdoctoral Research Fellow: Caymen Novak, Ph.D.	3/2020-present
Faculty Mentor for Undergraduate Student: Rhea Iyer	5/2021-4/2022
Faculty Mentor for Pulmonary and Critical Care Fellow: Kevin Ho, M.D. Current position: Assistant Professor at OSU	7/2019-6/2021
Faculty Mentor for Undergraduate Student: Kristina Luikart, Current position: Medical Assistant at OSU	5/2019-6/2021
Faculty Mentor for Pulmonary and Critical Care Fellow: Derrick Herman, M.D. Current position: Assistant Professor at OSU	7/2017-6/2019
Faculty Mentor for Undergraduate Student: Shruthi Sethuraman Current position: Medical Student	3/2017-5/2019
Dissertation Committee Member for MSTP student: Christopher Bobba, B.S. Current position: Surgery Residency	1/2017-4/2019
Faculty Mentor for Pulmonary and Critical Care Fellow: Bryan Hay, M.D. Current position: PCCS physician	7/2016-6/2018
Faculty Co-Mentor for Postdoctoral Research Fellow: Brenda Reader, Ph.D. Current position: CTC Biorepository Manager	10/2015-5/2017
Faculty Mentor for Undergraduate Student: Jacqueline Neagos Current position: Anesthesiologist assistant	7/2011-8/2012

Rotating Students/trainees:

BSGP rotational student: Christina Sanders, BS, MS	8/2021-10/2021
Rotational Student from Resident/PhD program at OSU Veterinary School: Arin Cox, D.V.M	2/2021
BSGP rotational student: Gina Torres Matias, BS	10/2020-12/2020
BSGP rotational student: Sarah Dinh, BS	7/2020
Rotational Student from Resident/PhD program at OSU Veterinary School: Susan Smith, D.V.M.	1/2020
Rotational Student from Resident/PhD program at OSU Veterinary School: Sarah Linn, D.V.M	10/2019
BSGP rotational student: Marlena Merling, BS	6/2019-9/2019
Resident rotation project: Justin Asquith, M.D.	4/2015-7/2015

Honors and Awards

American Journal of Cell and Molecular Biology Top Review Award	3/2021
ATS Allergy, Immunology and Inflammation Early Career Achievement Awardee	5/2019
Jo Rae Wright Award for Outstanding Science, American Thoracic Society	5/2016
Parker B. Francis Fellowship	2/2012
Internal Medicine Research Day Abstract Finalists	5/2010
Keystone Symposium Scholarship Winner	4/2009
Hartwell Foundation Fellowship	1/2008
The Miller Fund Award for Innovative Immunology Research	5/2005
Graduate of University of Toledo Honors College	5/2002
Sullivan Research Fellowship	5/2000
University of Toledo Academic Scholarship	9/1998

Grants and Contract Awards

Active

1. NIH/NHLBI R01HL141217
   The Pivotal Role of Macrophages in Regulating Pulmonary Fibrosis

4/1/2019-3/31/2024 ($1,962,256)
Role: Principle Investigator (50% effort)

2. OSU President's Research Excellence Accelerator Award
   Development of novel targets for preventing mechanically induced injury in lung fibrosis patients
   7/1/2021-9/30/2022 ($50,000)
   Role: Multi-PI (0% effort)

3. OSU Dean's Development Grant
   TSLP mediates asthma exacerbation following ozone exposure
   7/1/2021-6/30/2022 ($50,000) NCE
   Role: Multi-PI (0% effort)

4. NIH/NHBLI F32HL164020
   Influence of macrophage-fibroblast interaction and mechanotransduction on fibrotic progression
   9/1/2022-8//2025 ($205,410)
   Role: Mentor (0% effort)
   PI: Caymen Novak-postdoc

5. NIH/NHLBI R43HL165998
   The role of Oxy210 in regulating pulmonary fibrosis
   9/1/2022-8/30/2023
   Role: Co-I (10% effort)
   PI: Parhami/ Max BioPharma

Previous

OSU/Davis Heart and Lung Research Institute Synergy Seed Grant
Novel role of macrophage CD163 in obesity
5/6/2021-5/31/2022 ($36,717)
Role: Co-Investigator (0% effort)
PI: Gowdy and Townsend

OSU/Davis Heart and Lung Research Institute Synergy Seed Grant
The comparative analysis of organ specific mechanism underlying fibrosis
5/6/2021-5/31/2022 ($25,000)
Role: Co-Investigator (0% effort)
PI: Rafael-Fortney

NIH/NHLBI R01HL137224
Regulation of Macrophage Inflammatory Phenotypes in ARDS
12/1/2017- 12/31/2021 ($2,232,913)
Role: Co-investigator (5% effort)

Drug Development Institute from Ohio State University
Role of Estrogen Receptor Beta Signaling in regulating pulmonary fibrosis
4/1/2019-3/31/2020 ($20,501)
Role: Principle Investigator

ATS Foundation/Genentech Research Grant in IPF
The Role of SOCS1 in Regulating Macrophage Activation during Pulmonary Fibrosis
1/1/2017-12/31/2019 ($100,000 for 2 years)
Role: Principal Investigator (20% effort)

Scientist Development Grant-American Heart Association
The Role of Macrophages in Regulating Pulmonary Fibrosis
07/01/2016-06/30/2019 ($231,000 for 3 years)
Role: Principal Investigator (20% effort)

NIH/NIEHS R01 ES020350
Extracellular Matrix, Innate Immunity, and Ozone-Induce Airway Disease
06/01/2014-03/07/2018 ($1,565,434)
Role: Co-Investigator (30% effort)

InterMune Junior Faculty Program
Role of ILC2 cells in regulating pulmonary fibrosis
6/01/2014-06/30/2016 ($100,000 for 2 years)
Role: Principal Investigator (40% effort)

Parker B. Francis Fellowship Program
IRAK-M regulates hyperoxic lung injury
07/01/12-08/30/15 ($156,000 for 3 years)
Role: Principal Investigator (60% effort)

NIH/NHLBI, T32 HL07749
Multi-Disciplinary Training Grant in Lung Diseases
PI: G. Toews
07/01/10 – 06/30/12 ($719,108 annual direct costs)
Role: Trainee (100% effort)

Hartwell Foundation
Role of Prostaglandin E2 in Mediating Intracellular Signaling
PI: M. Peters-Golden and B. Moore
01/2008-12/2009 ($100,000 for 2 years)
Role: Research Fellow

NIH/NHLBI, T32 HL07749
Multi-Disciplinary Training Grant in Lung Diseases
PI: G. Toews
07/01/07 – 06/30/08 ($728,644 annual direct costs)
Role: Trainee (100% effort)

Herman and Dorothy Miller Fund for Innovative Immunology
Immunology Program, University of Michigan
5/2005-6/2006 ($18,000 for 1 year)
Role: Trainee

Immunology Training Grant
Research Training in Experimental Immunology
PI: R. Miller
9/2003-9/2004 ($253,948 annual direct costs)
Role: Trainee

Publications

Peer-reviewed journal articles

1. Bobba CM, Fei Q, Shukla V, Lee H, Patel P, Putman RK, Spitzer C, Tsai M, Wewers MD, Lee RJ, Christman JW, **Ballinger MN**, Ghadiali SN, Englert JA. Nanoparticle delivery of microRNA-146a regulates mechanotransduction in lung macrophages and mitigates injury during mechanical ventilation. *Nat Commun*. 2021 Jan 12;12(1):289.

2. Nie Y, Nirujogi TS, Ranjan R, Reader BF, Chung S, **Ballinger MN**, Englert JA, Christman JW, Karpurapu M. PolyADP-Ribosylation of NFATc3 and NF-kB Transcription Factors Modulate Macrophage Inflammatory Gene Expression in LPS-Induced Acute Lung Injury. *J Innate Immun*. 2020 Oct 12:1-11 doi: 10.1159/000510269

3. Reader BF, Sethuraman S, Hay BR, Thomas Becket RV, Karpurapu M, Chung S, Lee YG, Christman JW, **Ballinger MN**. IRAK-M Regulates Monocyte Trafficking to the Lungs in Response to Bleomycin Challenge. *J Immunol.* 2020 May 15:204(10):2661-2670.

4. Chung S, Lee YG, Karpurapu M, Englert JA, **Ballinger MN**, Davis IC, Park GY, Christman JW. Depletion of microRNA-451 in response to allergen exposure accentuates asthmatic inflammation by regulating Sirtuin2. *Am J Physiol Lung Cell Physiol* 2020 May 1:318(5):L921-L930

5. Poblete JMS, **Ballinger MN**, Bao S, Alghothani M, Nevado JB Jr, Eubank TD, Christman JW, Magalang UJ. Macrophage HIF-1α mediates obesity-related adipose tissue dysfunction via interleukin-1 receptor-associated kinase M. *Am J Physiol Endocrinol Metab*. 2020 May 1;318(5):E689-E700.

6. Chung S, Kim JY, Song MA, Park GY, Lee YG, Karpurapu M, Englert JA, **Ballinger MN**, Pabla N, Chung HY, Christman JW. FoxO1 is a critical regulator of M2-like macrophage activation in allergic asthma. *Allergy.* 2019 Mar;74(3):535-548.

7. Lee YG, Reader BF, Herman D, Streicher A, Englert JA, Ziegler M, Chung S, Karpurapu M, Park GY, Christman JW, **Ballinger MN**. Sirtuin 2 enhances allergic asthmatic inflammation. *JCI Insight.* 2019 Jan 22. pii: 124710. doi: 10.1172/jci.insight.124710.

8. Richardson, RT, **Ballinger MN**, Qian F, Christman JW, and Johnson RM Morphological and functional characterization of honey bee, Apis mellifera, hemocyte cell communities. *Apidologie* 2018 49, 397-410

9. Karpurapu M, Lee YG, Qian Z, Wen J, **Ballinger MN**, Rusu L, Chung S, Deng J, Qian F, Reader BF, Nirujogi TS, Park GY, Pei D, Christman JW. Inhibition of nuclear factor of activated T cells (NFAT) c3 activation attenuates acute lung injury and pulmonary edema in murine models of sepsis. *Oncotarget.* 2018 Jan 25;9(12):10606-10620.

10. Wiet MG, Piscioneri A, Khan SN, **Ballinger MN**, Hoyland JA, Purmessur D. Mast Cell-Intervertebral disc cell interactions regulate inflammation, catabolism and angiogenesis in Discogenic Back Pain. *Sci Rep*. 2017 Oct 2;7(1):12492.

11. Chung S, Lee TJ, Reader BF, Kim JY, Lee YG, Park GY, Karpurapu M, **Ballinger MN**, Qian F, Rusu L, Chung HY, Unterman TG, Croce CM, Christman JW. FoxO1 regulates allergic asthmatic inflammation through regulating polarization of the macrophage inflammatory phenotype. *Oncotarget*. 2016 Apr 5;7(14):17532-46.

12. Podsiad A, Standiford TJ, **Ballinger MN**, Eakin R, Park P, Kunkel SL, Moore BB, Bhan U. MicroRNA-155 regulates host immune response to postviral bacterial pneumonia via IL-23/IL-17 pathway. *Am J Physiol Lung Cell Mol Physiol.* 2016 Mar 1;310(5):L465-75.

13. Domingo-Gonzalez R, Martínez-Colón GJ, Smith AJ, Smith CK, **Ballinger MN**, Xia M, Murray S, Kaplan MJ, Yanik GA, Moore BB. Inhibition of Neutrophil Extracellular Trap Formation after Stem Cell Transplant by Prostaglandin E2. *Am J Respir Crit Care Med.* 2016 Jan 15;193(2):186-97.

14. Julian MW, Strange HR, **Ballinger MN**, Hotchkiss RS, Papenfuss TL, Crouser ED. Tolerance and Cross-Tolerance following Toll-Like Receptor (TLR)-4 and -9 Activation Are Mediated by IRAK-M and Modulated by IL-7 in Murine Splenocytes. *PLoS One.* 2015 Jul 28;10(7):e0132921.

15. Neagos J, Newstead MW, Zheng X, Huang S, Standiford TJ, **Ballinger MN**. The induction of tolerance in alveolar epithelial cells in response to TLR ligands. *Am J Respir Cell Mol Biol.* 2015 Dec;53(6):872-81

16. Bhan U, Podsiad AB, Kovach MA, **Ballinger MN**, Keshamouni V, Standiford TJ. Linezolid has unique immunomodulatory effects in post-influenza community acquired MRSA pneumonia. *PLoS One.* 2015 Jan 30;10(1):e0114574.

17. **Ballinger MN**, Newstead MW, Zheng X, Bhan U, Mo XM, Kunkel SL, Moore BB, Flavell F, Christman JW, Standiford TJ. IRAK-M promotes alternative macrophage activation and fibroproliferation in bleomycin-induced lung injury. *J Immunol.* 2015 Feb 15;194(4):1894-904.

18. Tolle L, Yu FS, Kovach MA, **Ballinger MN**, Newstead MW, Zeng X, Nunez G, Standiford TJ. Redundant and Cooperative Interactions between TLR5 and NLRC4 in Protective Lung Mucosal Immunity against Pseudomonas aeruginosa. *J Innate Immun.* 2015;7(2):177-86.

19. Bhan U, Newstead MJ, Zeng X, Podsaid A, Goswami M, **Ballinger MN**, Kunkel SL, Standiford TJ. TLR9-dependent IL-23/IL-17 is required for the generation of Stachybotrys chartarum-induced hypersensitivity pneumonitis. *J. Immunol* 2013 Jan 1:190(1):349-56

20. **Ballinger MN**, Newstead MW, Zeng X, Bhan U, Horowitz JC, Moore BB, Pinsky DJ, Flavell RA, Standiford TJ. Critical role for IRAK-M in regulating antioxidant production during hyperoxic lung injury *J. Immunol* 2012 Jul 1;189(1):356-64.

21. Kovach MA, **Ballinger MN**, Newstead MW, Zeng X, Bhan U, Yu F, Moore BB, O'Riordan M, Gallo R, Standiford TJ. Cathelicidin related antimicrobial peptide is required for effective lung mucosal immunity in Gram-negative bacterial pneumonia *J. Immunol* 2012 Jul 1;189(1):304-11.

22. Serezani CH, Medeiros AI, Kane S, Kim SH, Marques MM, Lee SP, Lewis C, Cornett A, Bourdonnay E, **Ballinger MN**, White E, Peters-Golden M. PTEN directly activates the actin depolymerization factor cofilin-1 during PGE_2-mediated inhibition of phagocytosis of fungi. *Science Signaling*. 2012 Feb 7;5(210):ra12

23. Standiford LR, Standiford TJ, Newstead MJ, Zeng X, **Ballinger MN**, Kovach MA, Reka AK, Bhan U. TLR4-Dependent GM-CSF protects against lung injury in Gram-negative bacterial pneumonia. *Am J Physiol Lung Cell Mol Physiol*. 2012 Mar;302(5):L447-54.

24. **Ballinger MN**, Peters-Golden M, Moore BB. Impaired neonatal macrophage phagocytosis is not explained by overproduction of prostaglandin E_2. *Respir Res*. Dec 5;12(1):155, 2011.

25. Bhan U, Kovach M, **Ballinger M**, Newstead MW, Zeng X, Standiford L, Standiford TJ. Stachybactros chartarum-induced hypersensitivity pneumonitis is TLR9 dependent. *Am J Patho*l Dec;179(6):2779-87, 2011.

26. Morato-Marques M, Campos MR, Kane S, Rangel AP, Lewis C, **Ballinger MN**, Kim SH, Peters-Golden M, Jancar S, Serezani CH. Leukotrienes Target F-actin/Cofilin-1 to Enhance Alveolar Macrophage Anti-fungal Activity. *J Biol Chem*. Aug 19;286(33):28902-13, 2011.

27. **Ballinger MN**, Welliver T, Straight S, Peters-Golden M, Swanson JA. Transient increase in cyclic AMP localized to macrophage phagosomes. *PLoS One*. 5(11):e13962, 2010.

28. Hubbard LL, **Ballinger MN**, Thomas PE, Wilke CA, Standiford TJ, Kobayashi KS, Flavell RA, Moore BB. A role for IL-1 Receptor-associated kinase-M in Prostaglandin E(2)-induced immunosuppression post-bone marrow transplantation. *J Immunol* 184:6299-6330, 2010

29. Bhan U, **Ballinger MN**, Zeng X, Newstead MJ, Cornicelli MD, Standiford TJ. Cooperative interactions between TLR4 and TLR9 regulate interleukin 23 and 17 production in a murine model of gram negative bacterial pneumonia. *PLoS One* 5:e9896, 2010

30. Sagana RL, Yan M, Cornett AM, Tsui JL, Stephenson DA, Huang SK, Moore BB, **Ballinger MN**, Melonakos J, Kontos CD, Aronoff DM, Peters-Golden M, White ES. Phosphatase and tensin homologue on chromosome 10 (PTEN) directs prostaglandin E2-mediated fibroblast responses via regulation of E prostanoid 2 receptor expression. *J Biol Chem* 284:32264-32271, 2009.

31. Lee SP, Serezani CH, Medeiros AI, **Ballinger MN**, Peters-Golden M. Crosstalk between prostaglandin E2 and leukotriene B4 regulates phagocytosis in alveolar macrophages via combinatorial effects on cyclic AMP. *J Immunol* 182:530-537, 2009.

32. Hubbard LL, **Ballinger MN**, Wilke CA, Moore BB. Comparison of conditioning regimens for alveolar macrophage reconstitution and innate immune function post bone marrow transplant. *Exp Lung Res* 34:263-275, 2008.

33. **Ballinger MN**, Hubbard LL, McMillan TR, Toews GB, Peters-Golden M, Paine R 3rd, Moore BB. Paradoxical role of alveolar macrophage-derived granulocyte-macrophage colony-stimulating factor in pulmonary host defense post-bone marrow transplantation. *Am J Physiol Lung Cell Mol Physiol*. 295:L114-122, 2008.

34. Serezani CH, Chung J, **Ballinger MN**, Moore BB, Aronoff DM, Peters-Golden M. Prostaglandin E2 Suppresses Bacterial Killing in Alveolar Macrophages by Inhibiting NADPH Oxidase. *Am J Respir Cell Mol Biol* 37:562-570, 2007.

35. Aronoff DM, Peres CM, Serezani CH**, Ballinger MN**, Carstens JK, Coleman N, Moore BB, Peebles RS, Faccioli LH, Peters-Golden M. Synthetic prostacyclin analogs differentially regulate macrophage function via distinct analog-receptor binding specificities. *J Immunol* 178:1628-1634, 2007.

36. **Ballinger MN**, Aronoff DM, McMillan TR, Cooke KR, Olkiewiez KM, Toews GB, Peters-Golden M, Moore BB. Critical Role in Prostaglandin E2 Overproduction in Impaired Pulmonary Host Response Post-Bone Marrow Transplantation. *J Immunol* 177:5499-5508, 2006. (IF: 4.382, citation count: 93).

37. Lindell DM, **Ballinger MN**, McDonald RA, Toews GB, Huffnagle GB. Immunologic Homeostasis during Infection: Coexistence of Strong Pulmonary Cell-Mediated Immunity to Secondary *Cryptococcus neoformans* Infection While the Primary Infection Still Persists at Low Levels in the Lungs. . *J Immunol* 177: 4652-4661, 2006.

38. Lindell DM, **Ballinger MN**, McDonald RA, Toews GB, Huffnagle GB. Diversity of the T-cell response to pulmonary *Cryptococcus neoformans* infection. *Infect Immun* 74:4538-4548, 2006.

39. **Ballinger MN**, Paine R 3rd, Serezani CH, Aronoff DM, Choi ES, Standiford TJ, Toews GB, Moore BB. Role of GM-CSF during Gram-negative Lung Infection with *Pseudomonas aeruginosa*. *Am J Respir Cell Mol Biol* 34:766-774, 2006.

40. Moore BB, **Ballinger MN**, White ES, Green M, Herrygers A, Wilke CA, Toews GB, and Peters-Golden M. Bleomycin-Induced E Prostanoid Receptor Changes Alter Fibroblast Responses to Prostaglandin E2. *J Immunol* 174:5644-5649, 2005

41. Rex E, Molitor SC, Hapiak V, Xiao H, **Henderson M**, Komuniecki R. Tyramine receptor (SER-2) isoforms are involved in the regulation of pharyngeal pumping and foraging behavior in Caenorhabditis elegans. *J Neurochem* 91:1104-15, 2004. (Published under my maiden name).

42. Ojielo CI, Cooke K, Mancuso P, Standiford TJ, Olkiewicz KM, Clouthier S, Corrion L, **Ballinger MN**, Toews GB, Paine R 3rd, Moore BB. Defective Phagocytosis and Clearance of *Pseudomonas aeruginosa* in the Lung Following Bone Marrow Transplantation. *J Immunol* 171: 4416-4424, 2003.

Editor-reviewed journal articles

1. Penke LRK, Torres Matias G, **Ballinger MN**. Pumping the Breaks on Pulmonary Fibrosis: A New Role for Regulator of Cell Cycle. *Am J Resipr Cell Mol Biol*. 2022 Feb;66(2):113-114

2. **Balinger MN,** Mora AL. Epigenetic Landscape, A Cornerstone of Macrophage Phenotype Regulation in the Fibrotic Lung. *Am J Respir Crit Care Med.* 2021 Oct 15:204(8):881-883

3. Novack CM, Tighe RM, **Ballinger MN.** What is 'Normal' When Examining Myeloid Cells in Human Airways? *Am J Respir Crit Care Med*. 2021 Apr 15;203(8):931-932

4. **Ballinger MN**, Davis IC. CD8+ T cells- Extracting A Toll in Viral Pneumonia. *Am J Respir Cell Mol Biol*. 2020 Dec;63(6):717-718.

5. Englert JA, Christman JW, **Ballinger MN**. Unhinging the machinery of sepsis: An unexpected role for vascular smooth muscle. *J Leukoc Biol*. 2018 Oct;104(4):661-663

6. McQuattie-Pimentel AC, Budinger GRS, **Ballinger MN**. Monocyte-derived Alveolar Macrophages: The Dark Side of Lung Repair? *Am J Respir Cell Mol Biol*. 2018 Jan;58(1):5-6.

7. **Ballinger MN**, Christman JW. Pulmonary Macrophages: Overlooked and Underappreciated. *Am J Respir Cell Mol Biol.* 2016 Jan;54(1):1-2.

Reviews (all reviews were peer reviewed)

1. Nho RS, **Ballinger MN**, Rojas MM, Ghadiali SN, Horowitz JC. Biomechanical Force and Cellular Stiffness in lung Fibrois. Am J Pathol. 2022 Feb 12:S0002-9440(22)

2. Novak C, **Ballinger MN,** Ghadiali SN. Mechanobiology of Pulmonary Disease: A Review of Engineering Tools to Understand Lung Mechanotransduction. *J. Biomech Eng* 2021 Nov 1;143(11)110801.

3. **Ballinger MN**, Standiford TJ. Postinfluenza Bacterial Pneumonia: Host Defenses Gone Awry. *Interferon Cytokine Res* 2010 30(9):643-52

4. Serezani CH, **Ballinger MN**, Aronoff DM, Peters-Golden M. Cyclic AMP: master regulator of innate immune cell function. *Am J Respir Cell Mol Biol* 2008 39:127-132

5. **Ballinger MN**, McMillan TR, Moore BB. Eicosanoid regulation of pulmonary innate immunity post-hematopoietic stem cell transplantation. *Arch Immunol Ther Exp (Warsz)* 2007 55:1-12. Review.

Published Abstracts and Oral Presentations

International

1. The TLR signaling inhibitor, IRAK-M promotes alternative macrophage activation and fibroproliferation in bleomycin-induced lung injury. *International colloquium of lung and airway fibrosis* **Ballinger MN**, Newstead M, Zheng X, Mo XM, Moore BB, Standiford TJ. (Mont Tremblant, Quebec, Canada). 9/2014

National:

1. Macrophage-fibroblast interactions contribute to collagen expression and contractility in pulmonary fibrosis. *Gordon Research Conference: Lung injury and repair*. Novak C, Luikart, Weimar D, Reader B, **Ballinger MN**. (Waterville, NH) 11/2021

2. The role of type 2 innate lymphoid cells in regulating macrophage activation in bleomycin-induced pulmonary fibrosis. *American Thoracic Society.* **Ballinger MN**, Moore BB, Standiford TJ, Christman JW. (Denver, CO). 5/2015

3. The role of an important negative regulator of Toll-like receptor signaling, IRAK-M in mediating the generation of antioxidants during hyperoxic lung injury *American Thoracic Society* **Ballinger MN**, Newstead M, Zheng X, Standiford TJ (Denver, CO) 5/2011

4. The role for an important negative regulator of Toll-like receptor signaling, IRAK-M, in mediating the generation of antioxidants during hyperoxic lung injury *Gordon Research Conference: Lung injury and repair*. **Ballinger MN**, Newstead MW, Zheng X, Standiford TJ. (Newport, RI) 8/2011

Invited Oral Presentations

National/International Meetings

1. Macrophages in Pulmonary Fibrosis: More than Big Easter? *The University of Texas Health Science Center Department of Biochemistry and Molecular Biology Seminar Series* (Houston, TX) 3/2022

2. Cross-talk between macrophages and fibroblast regulates pulmonary fibrosis. *University of Wisconsin-Madison Cell & Regenerative Biology Seminar Series* (online due to COVID19) 3/2021

3. Cross-talk between macrophages and fibroblast regulates pulmonary fibrosis. *Vanderbilt University Department of Pathology, Microbiology and Immunology Seminar Series* (online due to COVID19) 3/2021

4. Mechanisms regulating the recruitment of monocyte-derived macrophages during pulmonary fibrosis. *The New York Academy of Sciences Novel Approaches in Pulmonary Fibrosis: Beyond the Fibroblast* (Online due to COVID19). 3/2020

Local/Regional Meetings

1. Pivotal role of macrophages in regulating pulmonary fibrosis *Ohio State University Pulmonary Research Conference* (Columbus, OH) 2/2022

2. The role of macrophages in regulating lung disease *Organoid Technology Research Conference Series* (Columbus, OH) 6/2021

3. The role of IRAK-M in regulating innate immunity within the lung *Cystic Fibrosis C3 Seminar Series* (Columbus, OH) 6/2021

4. Modeling asthma exacerbation from air pollution *Ohio State University Pulmonary Research Conference* (co-presented with Dr. Joshua Englert) (Columbus, OH) 2/2021

5. The role of IRAK-M in regulating macrophage function in the setting of pulmonary fibrosis *Ohio State University Pulmonary Research Conference* (Columbus, OH) 11/2018

6. The role of macrophages in regulating pulmonary fibrosis. *Ohio State University Pulmonary Research Conference* (Columbus, OH) 9/2017

7. Establishing a translational research program using human lung tissue. *Cystic Fibrosis Research Symposia* (Columbus, OH) 1/2017

8. The role of macrophages in regulating pulmonary fibrosis *Davis Heart and Lung Research Institute Work in Progress* (Columbus, OH) 2/2016

9. The pivotal role of macrophages in regulating pulmonary fibrosis. *Microbial, Infection and Immunity Lung Working Group* (Columbus, OH) 5/2015

10. The role of macrophages and innate lymphoid type 2 cells in regulating pulmonary fibrosis. *Ohio State University Pulmonary Research Conference* (Columbus, OH) 2/2015

Poster Presentations

**Underline denotes trainee

International

1. The role of IRAK-M in regulating monocyte trafficking to the lung following bleomycin challenge *International colloquium of lung and airway fibrosis* **Ballinger MN**, Reader BF, Thomas Becket RV, Christman JW. (San Francisco, CA, USA) 10/2018

2. The role of TLR signaling in regulating collagen uptake in the setting of pulmonary fibrosis *International colloquium of lung and airway fibrosis* **Ballinger MN**, Reader BF, Pope-Harman A, Whitson B, Shah S, Keller B, Leight J, Moore BB, Christman JW. (Dublin, Ireland) 9/2016

3. Differential expression and functionality of Toll-like receptors in macrophages isolated from patients with Idiopathic Pulmonary Fibrosis. *International colloquium of lung and airway fibrosis* Reader BF, Pope-Harmon A, Whitson B, Shah S, Keller B, Wewers M, Christman JW, **Ballinger MN**. (Dublin, Ireland) 9/2016

4. Eicosanoid regulation of host defense post-bone marrow transplantation. *Immunocompromised Host Society Meeting* **Ballinger MN**, McMillian TR, Aronoff DM, Peters-Golden M, Moore BB. (Crans-Montana, Switzerland). 7/2006

5. Increased susceptibility to gamma-herpes virus post-bone marrow transplantation. *Immunocompromised Host Society Meeting* McMillian TR, **Ballinger MN**, Moore BB. (Crans-Montana, Switzerland). 7/2006

National

1. Interactions of IPF alveolar macrophages results in increased extracellular matrix gene expression and fibroblast contraction. *Keystone Symposium: Tissue Fibrosis and Repair.* Novak CM, Sethuraman S, Luikart K, Reader B, Ghadiali S, **Ballinger MN** (Keystone, CO) 6/2022

2. A novel two-hit model for ozone-induced allergic asthma exacerbation. *American Thoracic Society* Ho K, Weimar D, Torres Matias GS, Lee H, Gowdy K, Englert JA, **Ballinger MN** (San Francisco, CA) 5/2022

3. Toll-like receptor signaling mediates macrophage collagen fragment uptake in the lung. *American Thoracic Society*. Torres-Matias GS, Leight J, **Ballinger MN**. (San Francisco, CA) 5/2022

4. Lung fibroblast phenotypes are regulated by micro-environmental culture conditions. *American Thoracic Society*. Novak, CM, Ghadiali S, **Ballinger MN** (San Francisco, CA) 5/2022

5. Micro-environmental attributes regulate lung fibroblast phenotypes. *Society for Biomaterial Annual Meeting.* Novak CM, Ghadiali S, **Ballinger MN** (Baltimore, MD) 3/2022

6. Micro-environmental attributes regulate lung fibroblast phenotypes. *Gordon Research Conference: Lung injury and repair*. Novak CM, Ghadiali S, **Ballinger MN** (Waterville, NH) 11/2021

7. A novel two-hit model for ozone-induced allergic asthma exacerbation. *Society for Toxicology* Ho K, Weimar D, Torres Matias GS, Lee H, Gowdy K, Englert JA, **Ballinger MN** (online due to COVID19) 3/2021

8. IRAK-M regulates airway hyperactivity in a novel model of ozone-induced allergic inflammation *American Thoracic Society* Ho K, Derrick H, Chung S, Thomas Becket RV, Weimer D, Tighe R, Englert JS, **Ballinger MN**. (online due to COVID) 5/2020

9. Non-soluble macrophage-epithelial interactions modulate cell injury during cyclic airway reopening *Biomedical Engineering Society* Oyster T, Christman JW, Englert JA, **Ballinger MN**, Ghadiali S. (Philadelphia, PA) 10/2019

10. The role of IRAK-M in regulating collagen uptake and degradation by macrophages in pulmonary fibrosis. *Gordon Research Conference: Lung, Injury and Repair.* **Ballinger MN**, Hay BR, Thomas Becket RV, Reader B, Leight J, Christman JW (Lewiston, ME) 9/2019

11. The role of IRAK-M in regulating innate immune responses following acute ozone exposure. *American Thoracic Society* Herman D, Englert JA, Tight R, Thomas Becket RV, Lee H, Wewers M, Christman JW, **Ballinger MN**. (Dallas, TX) 5/2019

12. Nanoparticle-based delivery of microRNA-146a mitigates ventilator induced lung injury and inflammation. *American Thoracic Society* Bobba C, **Ballinger MN**, Ghadiali S, Englert JA. (Dallas, TX) 5/2019

13. The role of IRAK-M in regulating monocyte trafficking to the lung following bleomycin challenge. *American Thoracic Society* **Ballinger MN**, Reader BF, Thomas Becket RV, Christman JW. (Dallas, TX) 5/2019

14. The role of TLR signaling in regulating collagen degradation by macrophages in fibrosis. *American Thoracic Society*. Hay BR, Reader BF, Christman JW, **Ballinger MN**. (San Diego, CA) 5/2018

15. Macrophage regulation of collagen and alpha-smooth muscle actin in fibroblasts. *American Thoracic Society*. Sethuraman S, Reader BF, Christman JW, **Ballinger MN** (San Diego, CA) 5/2018

16. MicroRNA-146a is differentially regulated in alveolar macrophages during mechanotransduction in ventilator induced lung injury. *American Thoracic Society.* Bobba C, **Ballinger MN**, Englert JA, Ghadiali SN (San Diego, CA) 5/2018

17. The role of TLR signaling in regulating monocyte recruitment into the lungs following bleomycin-induced pulmonary fibrosis. *Gordon Research Conference: Lung, injury and repair.* **Ballinger MN**, Reader BF, Hay BR, Sethuraman S, Moore BB, Christman JW (New London, NH) 8/2017

18. The role of TLR signaling in regulating macrophage recruitment and activation during bleomycin-induced pulmonary fibrosis. *American Thoracic Society*. **Ballinger MN**, Reader BF, Hay BR, Moore BB, Christman JW. (Washington DC) 5/2017

19. The role of TLR signaling in regulating collagen uptake and degradation in macrophages following bleomycin-induced pulmonary fibrosis. *American Thoracic Society*. Hay BR, Reader BF, Christman JW, Leight J, **Ballinger MN**. (Washington DC) 5/2017

20. Alveolar epithelial cell and macrophage co-culture regulates mechanically-induced inflammation. *American Thoracic Society*. Bobba C, Englert JA, **Ballinger MN**, Ghadiali SN. (Washington DC) 5/2017

21. Mir-451 regulates allergic lung inflammation via Sirt2-mediated alternative macrophage activation. *American Thoracic Society*. Lee YG, Chung S, Karpurapu M, **Ballinger MN**, Reader BF, Deng J, Feng Q, Christman JW. (San Francisco, CA) 5/2016

22. Fox01 mediates asthmatic lung inflammation by promoting alternative activation of pulmonary macrophages. *American Thoracic Society*. Chung S, Reader B, Kim JY, Lee YG, Karpurapu M, **Ballinger MN**, Park GY, Christman JW. (San Francisco, CA) 5/2016

23. The TLR signaling inhibitor, IRAK-M, potentiates bleomycin-induced lung injury by regulating the production of the profibrotic cytokine IL-13. *American Thoracic Society* **Ballinger MN**, Newstead MW, Zheng X, Mo XM, Moore BB, Christman JW, Standiford TJ. (San Diego, CA) 5/2014

24. The TLR signaling inhibitor IRAK-M potentiates bleomycin-induced lung injury by regulating the production of the profibrotic cytokine IL-13. *American Thoracic Society* **Ballinger MN**, Newstead M, Zheng X, Bhan U, Moore BB, Standiford TJ. (Philadelphia, PA) 5/2013

25. Post viral bacterial pneumonia: role of microRNA *American Thoracic Society*. Bhan U, Podsaid A, **Ballinger MN**, Domingo RG, Moore BB, Standiford TJ. (Philadelphia, PA) 5/2013

26. The TLR signaling inhibitor IRAK-M potentiates bleomycin-induced lung injury and fibrosis. *American Thoracic Society* **Ballinger MN,** Newstead MW, Zheng X, Moore BB, Standiford TJ. (San Francisco, CA) 5/2012

27. Expression of novel IL-1 family members in murine gram-negative pneumonia. *American Thoracic Society* Kovach MA, Zheng X, Newstead MW, **Ballinger MN**, Standiford TJ. (San Francisco, CA) 5/2012

28. The role of IRAK-M in mediating acute lung injury. *American Thoracic Society* **Ballinger MN**, Lyn-Kew K, Bhan U, Newstead MW, Standiford TJ. (New Orleans, LA) 5/2010

29. Prostaglandin E2 mediates impaired host defense functions in alveolar macrophages from young rats. *American Thoracic Society* **Ballinger MN**, Peters-Golden M. (San Diego, CA) 5/2009

Local

1. Micro-environment attributes regulate lung fibroblast phenotypes. *Davis Heart and Lung Research Institute Research Day*. Novak CM, Ghadiali S, **Ballinger MN** (Columbus, OH) 10/2021

2. Toll-like receptor signaling pathways mediate the ability of macrophages to identify and uptake collagen fragments. *Davis Heart and Lung Research Institute Research Day.* Torres Matias GS, Leight J, **Ballinger MN**. (Columbus, OH) 10/2021

3. Role of CD163 deficiency in adipose macrophage induced inflammation leading to obesity. *Davis Heart and Lung Research Institute Research Day.* Hutton G, Blaskiewicz M, Dunnigan-Russel K, Yaeger M, Sasnoor L, Baer L, **Ballinger MN**, Townsend K, Gowdy KM. (Columbus, OH) 10/2021

4. Micro-environment attributes regulate lung fibroblast phenotypes. *Ohio State University Department of Internal Medicine Research Day*. Novak CM, Ghadiali S, **Ballinger MN**. (Columbus, OH) 5/2021

5. A novel two-hit model for ozone-induced allergic asthma exacerbation. *Ohio State University Department of Internal Medicine Research Day* Ho K, Weimar D, Torres Matias GS, Lee H, Gowdy K, Englert JA, **Ballinger MN** (Columbus, OH) 5/2021

6. Using the pig to establish a new large animal model of pulmonary fibrosis. *Davis Heart and Lung Research Institute Research Day*. Weimar DA, Joseph M, Luikart K, Kolipaka A, **Ballinger MN**. (Columbus, OH) 10/2020

7. IRAK-M regulates airway hyperreactivity in a novel model of ozone induced allergic inflammation. *Davis Heart and Lung Research Institute Research Day*. Ho K, Herman D, Chung S, Thomas Becket RV, Weimer DM, Tighe R, Englert JA, **Ballinger MN** (Columbus, OH) 10/2020

8. The role of IRAK-M in regulating collagen uptake by macrophages in pulmonary fibrosis. *Davis Heart and Lung Research Institute Research Day* Thomas Becket RV, Hay B, Reader BF, Leight J, Christman JW, Luikart K, Ho K, Ruane-Foster, M, **Ballinger MN**. (Columbus, OH) 10/2019

9. Investigating the role of estrogen receptor beta agonist in regulating bleomycin-induced pulmonary fibrosis. *Davis Heart and Lung Research Institute Research Day.* Weimar D, Thomas Becket RV, Luikart K, **Ballinger MN** (Columbus, OH) 10/2019

10. Alteration in macrophage activation regulates collagen expression by fibroblasts in idiopathic pulmonary fibrosis *Davis Heart and Lung Research Institute Research Day*. Luikart K, Sethuraman S, Thomas Becket RV, Weimar D, Reader BF, Christman JW, **Ballinger MN** (Columbus, OH) 10/2019

11. Altered macrophage phenotype results in elevated collagen by fibroblasts in idiopathic pulmonary fibrosis Davis Heart and Lung Research Institute Research Day Sethuraman S, Reader BF, Christman JW, **Ballinger MN** (Columbus, OH) 10/2018

12. Role of IRAK-M expression in regulating macrophage recruitment, differentiation and maturation during bleomycin-induced pulmonary fibrosis. *Davis Heart and Lung Research Institute Research Day*. Asquith JM, Christman JW, **Ballinger MN** (Columbus, OH) 10/2015

13. The TLR signaling inhibitor IRAK-M promotes alternative macrophage activation and fibroproliferation in bleomycin-induced lung injury*. Davis Heart and Lung Research Institute Research Day*. **Ballinger MN**, Mo XM, Moore BB, Deng J, Lee YG, Christman JW, Standiford TJ. (Columbus, OH) 10/2014

14. Induction of tolerance in alveolar epithelial cells by toll-like receptor agonists: role of TLR signaling inhibitors. *University of Michigan Department of Internal Medicine Research Day.* Neagos JE, Standiford TJ, Newstead MW, Zheng X, **Ballinger MN** (Ann Arbor, MI) 5/2012

15. The role of IRAK-M in mediating acute lung injury. *University of Michigan Department of Internal Medicine Research Day.* **Ballinger MN**, Bhan U, Newstead MW, Standiford TJ. (Ann Arbor, MI) 5/2010

Social Media

Tweet chat: Women in Medicine and Science: Effect of COVID-19 pandemic on career of WIMS 3/31/22

I was a panelists for a tweet chat sponsored by ATS community. The discussion focused on the challenges associated with being a women in the setting of medicine and science. The tweet had over 2 million impressions and a twitter moment was created, and can be viewed here: https://twitter.com/i/events/1509865399701192710

Tweet chat: Women in Medicine and Science: Mentoring Twitter Chat. 3/25/21

I was a moderator for a tweet chat hosted by the Media Subcommittee for the Women in Medicine and Science Committee at Ohio State University. The metrics for this tweet chat are: 29,053 impressions, 880 engagements and an engagement rate of 3.0%.

Tweet chat: Challenged to Women in Medicine & Science in the COVID Era Tweet Chat. 9/13/20

I was a moderator for a tweet chat hosted by the Media Subcommittee for the Women in Medicine and Science Committee at the Ohio State University. The metrics for this: 16,474 impressions, 708 engagements. A twitter moment was created, and can be viewed here: https://twitter.com/i/events/1305271219869175808?s=11

Tweet chat: Women in Medicine Part 2. 3/6/2020

I was a panelists for a tweet chat sponsored by ATS community. The discussion focused on the challenges associated with being a women in the setting of medicine and science. A twitter moment was created, and can be viewed here: https://twitter.com/i/events/1235956710453452800?s=11

Tweet chat: Women in Medicine Part 1. 1/30/2020

I was a panelists for a tweet chat sponsored by ATS community. The discussion focused on how being a woman in medicine and science has positively affected our career. The metric for this was over 400,000 potential impressions. A twitter moment was created: https://twitter.com/i/events/1223235246134628352?s=11

Tweet chat: Help! It's my first ATS! 5/9/2019

I was a panelists for a tweet chat sponsored by the Members in Training and Transition Committee for the American Thoracic Society regarding how to navigate the annual international conference A twitter moment was created, and can be viewed here: https://twitter.com/i/events/1126852613968924673?s=11

Tweet chat: Tips on Mentoring. 9/24/2018

I was a panelists for a tweet chat sponsored by the Members in Training and Transition Committee for the American Thoracic Society regarding the role of mentorship and how to be a good mentor in an academic research setting. A twitter moment was created: https://twitter.com/i/events/1044242415576649728?s=11

Other Creative Products

Redefining Failure: 1/2022

I was a panelists on an ATS Core Training Webinar and Podcast series about 'Redefining Failure' where I joined other esteemed panelists while we first tried to define failure and discussed how we talked about building resiliency within an academic career.

Setting up a Lab Part 2: 7/2019

This was the second part to a podcast recorded as part of the Berathe Easy Podcast of the American Thoracic Society. https://www.thoracic.org/about/ats-podcasts/setting-up-a-lab-part-2.php

Setting up a Lab Part 1: 5/2019

This was the first part to a podcast recorded as part of the Berathe Easy Podcast of the American Thoracic Society. I, along with another junior faculty member, was interviewed by the Early Career Working Group about things to consider when establishing your own independent basic science research lab. https://www.thoracic.org/about/ats-podcasts/setting-up-a-lab-part-1.php

Patents and Technology Transfer

None