

**CURRICULUM VITAE****MICHAEL B. FESSLER, M.D.****I. Personal History**

Present Position: Senior Investigator, Clinical Investigation in Host Defense Group  
Chief; Immunity, Inflammation and Disease Laboratory  
Division of Intramural Research  
National Institute of Environmental Health Sciences  
National Institutes of Health, Department of Health and Human Services

**ORCID:** 0000-0002-8262-8613 (<https://orcid.org/0000-0002-8262-8613>)

ResearcherID: C-6323-2019

**II. Educational History****Princeton University**

B.A. in Philosophy 1992  
Magna Cum Laude

**Harvard Medical School**

M.D. 1996

**Massachusetts General Hospital**

Internal Medicine Residency 1996-99

**University of Colorado Health Sciences Center**

Fellowship in Pulmonary Sciences and Critical Care Medicine 1999-2002

**Board Certification**

2000 Internal Medicine  
2012 Pulmonary Medicine  
2014 Critical Care Medicine

**Medical Licensure**

Colorado 1999-2007  
North Carolina 2006-present

**Miscellaneous**

Diplomate, NIH Senior Leadership Training Program (2014)  
ATS Fellow (inducted 2024)

**III. Research Training**

1991-1992 Technician, Bristol-Myers Squibb Company: Macromolecular Chemistry Lab

- Developed protocol for amino acid analysis of peptides.
- 1993 Technician, Renal Division, Brigham & Women's Hospital, Boston  
Used DD-PCR to characterize mouse model for polycystic kidney disease.
- 1999 Internal Medicine Resident, Massachusetts General Hospital, Boston  
Analyzed NMR data to study skeletal muscle ventilatory chemoreflex.
- 2000-2002 National Jewish Medical and Research Center, Denver, CO  
Research Fellow

#### IV. Professional Positions

- 2018-present Chief; Immunity, Inflammation and Disease Laboratory, NIEHS, NIH
- 2023-present Adjunct Professor of Medicine; Duke University School of Medicine, Durham, NC
- 2017-2018 Acting Chief; Immunity, Inflammation and Disease Laboratory, NIEHS, NIH
- 2017-2023 Adjunct Associate Professor of Medicine; Duke University School of Medicine, Durham, NC
- 2013-present Senior Investigator; Division of Intramural Research, NIEHS, NIH
- 2006-2013 Clinical Investigator (Tenure-Track); Division of Intramural Research, NIEHS, NIH
- 2009-2017 Adjunct Assistant Professor of Medicine; Duke University School of Medicine, Durham, NC
- 2013-present Member, Training Faculty; Curriculum in Toxicology, University of North Carolina-Chapel Hill, Chapel Hill, NC
- 2003-2006 Assistant Professor of Medicine, University of Colorado School of Medicine; Denver, CO
- 2002-2003 Instructor of Medicine; University of Colorado School of Medicine, Denver, CO
- 2004-2006 Assistant Professor of Medicine, National Jewish Hospital; Denver, CO
- 2003-2004 Instructor of Medicine; National Jewish Medical and Research Center, Denver, CO
- 2002-2003 Research Fellow; National Jewish Medical and Research Center, Denver, CO

#### V. Honors and Awards

- 1992 Phi Beta Kappa, Magna Cum Laude, Cane Scholarship, Princeton University
- 2001 Andrew Goodman Research Fellowship Award, National Jewish Hospital
- 2008 Division of Intramural Research Early Career Award, NIEHS, NIH, DHHS
- 2008 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, Sept.)  
Smoak K et al. *Journal of Immunology* 2008; 180(5):3305-12.
- 2009 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, June)  
Dhungana S et al. *Molecular & Cellular Proteomics* 2009; 8(1):201-213.
- 2010 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, August)  
Smoak KA et al. *Cell Metabolism* 2010; 11(6):493-502.
- 2010 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, Sept.)  
Madenspacher JH et al. *Journal of Immunology* 2010; 185(3):1660-9.
- 2010 Intramural Research Award, NIEHS, NIH, DHHS
- 2011 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, Oct.)  
Merrick BA et al. *Molecular & Cellular Proteomics* 2011; 10(10):M110.006007.
- 2012 Carol Basbaum Award, American Thoracic Society
- 2012 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, Nov.)  
Jaramillo R, et al. *Journal of Allergy & Clinical Immunology* 2013; 131(2):405-11.
- 2013 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, July)  
Madenspacher J et al., *Journal of Experimental Medicine* 2013; 210(5):891-904.

- 2014 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, May)  
Gale et al., *Journal of Allergy and Clinical Immunology* 2014 Mar 18.
- 2014 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, June)  
Lowe et al., *Cancer Research* 2014; 74(8):2812-92
- 2014 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, December)  
Gowdy et al., *Mucosal Immunol* 2014 Oct 22 Epub.
- 2015 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, September)  
Chowdhury et al., *Molecular & Cellular Proteomics* 2015; 14(7):1859-70.
- 2015 Inducted Member, American Society for Clinical Investigation
- 2016 Special Act Award, NIEHS
- 2016 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, November)  
Lai et al., *Journal of Biological Chemistry* 2016; 291(37):19651-60.
- 2016 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, December)  
Lowe et al., *Cell Death Differ* 2016 Nov. 11
- 2017 NIEHS Group Merit Award, Inflammation Research Implementation
- 2017 Scientific Director's Award for Outstanding Intramural Research, NIEHS/NIH
- 2017 Top Reviewer Award, *American Journal of Respiratory Cell and Molecular Biology*
- 2017 Co-PI; NIH DDIR Innovation Award (competitive NIH intramural program project)
- 2017 Special Act Award, NIEHS
- 2017 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, November)  
Fessler et al., *Environmental Health Perspectives* 2017; 125(5):057010
- 2018 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, December)  
Madenspacher et al., *Journal of Allergy & Clinical Immunology* 2018
- 2018 Paper of the Year, NIEHS (Madenspacher et al., *Journal of Allergy & Clinical Immunology* 2018 Oct 5. pii: S0091-6749(18)31368-X
- 2019 Top Reviewer Award, *American Journal of Respiratory Cell and Molecular Biology*
- 2020 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, March)  
Lin et al., *Journal of Clinical Investigation* 2020
- 2020 Principal Investigator, NIH Director's Challenge Innovation Award
- 2020 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, September)  
Madenspacher et al., *JCI Insight* 2020
- 2021 Paper of the Year, NIEHS  
Rai et al., *Nature Immunology* 2021
- 2021 Recipient, NIH Intramural Targeted Anti-COVID19 (ITAC) Award
- 2022 NIH Director's Award: NIH COVID Vaccine and Booster Clinic Team
- 2023 Paper of the Year, NIEHS  
Rai et al., *Journal of Clinical Investigation* 2023 Nov 1;133(21):e171982
- 2024 Intramural Research Paper of the Month, NIEHS (*Environmental Factor*, March)  
Gabor et al., *Journal of Clinical Investigation* 2024

## VI. Patents

1. U.S. Patent #: US 9,211,302 B2 (12/15/15): 'Modulation of Lrch4 activity and Therapeutic Application Thereof' (inventors: Michael B. Fessler, Jim J. Aloor). PCT Application No. PCT/US2012/021538; US Application No. 13/980,097

2. PCT Patent Application No. PCT/US19/29801, filed April 30, 2019: 'USE OF EPITHELIAL MEMBRANE PROTEIN 2 (EMP2) TARGETING AGENTS IN TREATING LUNG DISORDERS' (inventors: Michael Brian Fessler, Carmen J. Williams, Wan-Chi Lin).

## VII. Cooperative Research and Development Agreements

1. PHS CRADA #0245-19 with Novartis to develop anti-EMP2 biologics for preclinical therapeutic testing.

## VIII. Trainees

### Postdoctoral fellows:

|              |                                                                                                                                                 |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 2007–2008    | Suraj Dhungana, Ph.D.; Current Position: Market Development Manager for Biomedical Research, Waters Corporation                                 |
| 2007-2011    | David Draper, Ph.D.; Current Position: Associate Director; Scientific Development; MI Bioresearch; Ann Arbor, MI                                |
| 2007-2015    | Jim J. Aloor, Ph.D.; Current Position: Research Associate Professor, East Carolina Diabetes and Obesity Institute, East Carolina University     |
| 2009-2012    | Saiful Chowdhury, Ph.D.; Current position: Associate Professor (Tenured), Dept. of Chemistry and Biochemistry, University of Texas at Arlington |
| 2010-2018    | Julie Lowe, Ph.D.; Current position: Biologist [C], Fessler group                                                                               |
| 2011-2014    | Kymberly Gowdy, Ph.D.; Current Position: Associate Professor of Internal Medicine, Ohio State University                                        |
| 2013-2017    | Kristin Gabor, Ph.D.; Current Position: Integrated Product Development Associate; Rho, Inc., Chapel Hill, NC                                    |
| 2015-2022    | Wan-Chi Lin, Ph.D.; Current Position: Staff Scientist, NHLBI FACS Core Facility                                                                 |
| 2016-2022    | Prashant Rai, Ph.D.; Current Position: Staff Scientist, Fessler laboratory                                                                      |
| 2018-2020    | Fei Zhao, Ph.D.; Current Position: Study Director, Charles River Laboratories                                                                   |
| 2021-present | Sookjin Moon, Ph.D.                                                                                                                             |
| 2022-present | Wilfred Lopez-Perez, Ph.D.                                                                                                                      |

### Post-baccalaureate fellows:

|              |                                                                              |
|--------------|------------------------------------------------------------------------------|
| 2012-2013    | Kezia Addo; Current position: Graduate student, University of North Carolina |
| 2011-2012    | John Guardiola; Current position: Medical resident, University of Louisville |
| 2016-2017    | Emily Mesev; Current position: Graduate student, Princeton University        |
| 2017-2019    | Sierra Atwater; Current position: Medical student, Duke University           |
| 2019-2020    | Aidin Alejo; Current position: Medical student, UNC-CH                       |
| 2022-present | Martin Sharpe                                                                |

### Predoctoral fellows/students:

|           |                                                                                                                                                  |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 2012-2013 | Lihua Lai (graduate student from Zhejiang University, China)<br>Current position: Associate Prof., Institute of Immunology, Zhejiang Univ.       |
| 2013-2015 | Michael Henderson (graduate student from University of North Carolina: M.S. in Fessler laboratory, 2015); Current position: Staff Scientist, FDA |
| 2016-2017 | Teminioluwa Ajayi, MPH (Medical student, Duke University)                                                                                        |

Current position: GI fellow, Baylor College of Medicine

### Summer students:

|            |                                                                                     |
|------------|-------------------------------------------------------------------------------------|
| 2007       | Ugonma Chukwueke; Current position: Instructor in Neurology, Harvard Medical School |
| 2008       | Katherine Weissler; Current position: Postdoctoral fellow, NIAID/NIH                |
| 2012, 2013 | William Ge; Current position: Medical student, Harvard Medical School               |
| 2014       | Matt Moore; Current position: Internal medicine resident, Georgetown University     |
| 2015       | Shiyi Li; Current position: Internal medicine resident, Albert Einstein             |
| 2018       | David Lauzier; Current position: Neurosurgery resident, UCLA                        |

### Honors/Awards to Trainees

|      |                                                                                                                                                                                                    |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2008 | Fellows Award for Research Excellence, NIH<br>Recipient: Suraj Dhungana, Ph.D. (Postdoctoral fellow)                                                                                               |
| 2009 | Abstract Travel Award<br>American Thoracic Society International Conference 2009<br>Recipient: David Draper, Ph.D. (Postdoctoral fellow)                                                           |
| 2009 | Oral presentation: 'MyD88 Couples Cholesterol Transport to Inflammation'<br>2009 Keystone Conference, Pathogen Receptors, Banff, Canada<br>Recipient: Kathleen Smoak, Ph.D. (Biologist)            |
| 2009 | Oral presentation: 'ABCG1, a Negative Regulator of Pulmonary Innate Immunity'<br>American Thoracic Society International Conference 2009<br>Recipient: David Draper, Ph.D. (Postdoctoral fellow)   |
| 2009 | Oral presentation: 'ABCG1 is a Negative Regulator of Pulmonary Host Defense'<br>NIH Research Festival, Bethesda, MD<br>Recipient: David Draper, Ph.D. (Postdoctoral fellow)                        |
| 2009 | Fellows Award for Research Excellence, NIH<br>Recipient: Suraj Dhungana, Ph.D. (Postdoctoral fellow)                                                                                               |
| 2010 | Fellows Award for Research Excellence, NIH<br>Recipient: David Draper, Ph.D. (Postdoctoral fellow)                                                                                                 |
| 2010 | Fellows Award for Research Excellence, NIH<br>Recipient: Jim Aloor, Ph.D. (Postdoctoral fellow)                                                                                                    |
| 2010 | Oral presentation: 'MyD88 Couples Cholesterol Transport to Inflammation'<br>LIPID MAPS Meeting 2010; Scripps Seaside Forum – UCSD, La Jolla, CA<br>Recipient: Kathleen Smoak, Ph.D. (Biologist)    |
| 2011 | Fellows Award for Research Excellence, NIH<br>Recipient: David Draper, Ph.D. (Postdoctoral fellow)                                                                                                 |
| 2011 | Fellows Award for Research Excellence, NIH<br>Recipient: Jim Aloor, Ph.D. (Postdoctoral fellow)                                                                                                    |
| 2012 | Fellows Award for Research Excellence, NIH<br>Recipient: Saiful Chowdhury, Ph.D. (Postdoctoral fellow)                                                                                             |
| 2012 | Oral presentation: 'Lrch4, a novel regulator of TLR pathways'<br>99th Annual Meeting, American Association of Immunologists (AAI), Boston, MA<br>Recipient: Jim Aloor, Ph.D. (Postdoctoral fellow) |
| 2012 | Best Poster Presentation, NIEHS Science Day                                                                                                                                                        |

- 2012 Recipient : Kymberly Gowdy, Ph.D. (Postdoctoral fellow)  
Semifinalist in both 2013 Intel Science Talent Search and 2013 Siemens Competition in Math, Science and Technology  
Recipient : William Ge (summer student)
- 2013 Fellows Award for Research Excellence, NIH  
Recipient: Julie Lowe, Ph.D. (IRA Postdoctoral fellow)
- 2013 First Place, Postdoctoral Fellow Poster Competition  
Visiting Pulmonary Scholars Symposium, UNC Friday Center  
Recipient : Kymberly Gowdy, Ph.D. (Postdoctoral fellow)
- 2013 Awardee, UNC Program in Translational Medicine (\$10,000 stipend)  
Recipient : Michael Henderson (graduate student)
- 2014 Best Poster Presentation from Graduate Student  
Retreat, UNC Toxicology Curriculum, UNC Friday Center  
Recipient : Michael Henderson (graduate student)
- 2014 Second Place, Postdoctoral Fellow Poster Competition  
Visiting Pulmonary Scholars Symposium, UNC Friday Center  
Recipient : Kymberly Gowdy, Ph.D. (Postdoctoral fellow)
- 2014 Oral presentation: 'SR-BI in Integrated Pulmonary Innate Immune Response'  
American Thoracic Society International Conference, San Diego, CA  
Recipient: Kymberly Gowdy, Ph.D. (Postdoctoral fellow)
- 2015 Best Poster Presentation (pre-doctoral category)  
Visiting Pulmonary Scholars Symposium, UNC Friday Center  
Recipient : Michael Henderson (graduate student)
- 2015 Oral presentation: 'A Novel Role for Irgm1 in Immune Homeostasis'  
Annual Meeting, American Association of Immunologists (AAI), Boston, MA  
Recipient: Kathleen Azzam, Ph.D. (Biologist)
- 2015 Oral presentation: 'TNFAIP8 regulates cancer cell biology'  
Annual Meeting, American Association of Immunologists (AAI), Boston, MA  
Recipient: Julie Lowe, Ph.D. (Postdoctoral fellow)
- 2015 AAI Trainee Abstract Award  
Recipient: Julie Lowe, Ph.D. (Postdoctoral fellow)
- 2015 Poster Award, NIEHS Science Day  
Recipient: Julie Lowe, Ph.D. (Postdoctoral fellow)
- 2016 Fellows Award for Research Excellence, NIH  
Recipient: Julie Lowe, Ph.D. (Postdoctoral fellow)
- 2016 Fellows Award for Research Excellence, NIH  
Recipient: Kristin Gabor, Ph.D. (Postdoctoral fellow)
- 2016 Oral presentation and travel award  
Annual Meeting, American Association of Immunologists (AAI), Seattle, WA  
Recipient: Kristin Gabor, Ph.D. (Postdoctoral fellow)
- 2017 Oral presentation  
Smith-Lemli-Opitz Scientific Conference, Cincinnati, OH  
Recipient: Kristin Gabor, Ph.D. (Postdoctoral fellow)
- 2017 Abstract award  
AAI Assembly, American Thoracic Society International Conference  
Recipient: Prashant Rai, Ph.D. (Postdoctoral fellow)

- 2017 Graduate Fellowship, Triangle Center for Evolutionary Medicine  
Recipient: Teminioluwa Ajayi (Medical student / pre-doctoral fellow)
- 2017 Minority Trainee Development Scholarship Award  
American Thoracic Society  
Recipient: Teminioluwa Ajayi (Medical student / pre-doctoral fellow)
- 2017 Outstanding Poster Award, NIH Postbac Poster Day  
Recipient : Emily Mesev (Postbac fellow)
- 2017 Fellows Award for Research Excellence, NIH  
Recipient: Wan-Chi Lin, Ph.D. (Postdoctoral fellow)
- 2017 Best Poster Award; Duke University Innate Immunity Symposium  
Recipient: Prashant Rai, Ph.D. (Postdoctoral fellow)
- 2018 Abstract award and oral presentation; RCMB Assembly, American Thoracic Society International Conference  
Recipient: Wan-Chi Lin, Ph.D. (Postdoctoral fellow)
- 2018 Winner, Post-baccalaureate Fellows Three-Minute Communication Challenge  
Recipient : Ms. Sierra Atwater (Post-baccalaureate fellow)
- 2018 Third Place; Pre-doc category; Poster Competition, 2018 VPS Symposium  
Recipient : Ms. Sierra Atwater (Post-baccalaureate fellow)
- 2018 Oral presentation (selected), Duke University Innate Immunity Symposium  
Recipient: Prashant Rai, PhD (Postdoctoral fellow)
- 2018 Fellows Award for Research Excellence, NIH  
Recipient: Prashant Rai, Ph.D. (Postdoctoral fellow)
- 2019 Outstanding Poster Award, NIH Postbacc Poster Day  
Recipient : Aidin Alejo (Postbacc fellow)
- 2020 Fellows Award for Research Excellence, NIH  
Recipient: Prashant Rai, Ph.D. (Postdoctoral fellow)
- 2020 Fellows Award for Research Excellence, NIH  
Recipient: Wan-Chi Lin, Ph.D. (Postdoctoral fellow)
- 2020 Best Oral Presentation, NIH Immunology Interest Group Annual Workshop  
Recipient: Prashant Rai, Ph.D. (Postdoctoral Fellow)
- 2020 Milstein Abstract Award and Oral Presentation, 8<sup>th</sup> Annual Meeting of the International Cytokine & IFN Society (ICIS)  
Recipient: Prashant Rai, Ph.D. (Postdoctoral Fellow)
- 2021 eSymposium Scholarship Award, Keystone Symposia  
Recipient: Prashant Rai, Ph.D. (Postdoctoral Fellow)
- 2023 Undergraduate poster award; Visiting Pulmonary Scholars Symposium  
Recipient: Martin Sharpe, B.S. (Post-baccalaureate fellow)

### **Mentoring and Outreach Activities**

Mentoring and diversity are priorities for me. Of the postdoctoral fellows who have passed through my laboratory, three are now faculty members in academia, one has a technology transfer office position in government (NIH), and three are in biomedical industry, of which two have risen to managerial leadership positions. As shown in the section above, most of my trainees have garnered honors while in my laboratory in the form of travel awards, poster awards, FARE awards (14 total to date), and various other distinctions. Regarding demographic balance, to date, seven of fourteen fellows and three of three biologists in my laboratory have been female. I have had three African American and

one African trainee (three post-baccalaureate/predoctoral, one summer student), plus one Hispanic trainee (post-bacc fellow). One of my trainees (Temini Ajayi), obtained a Minority Trainee Development Scholarship Award from the American Thoracic Society (ATS), among other distinctions, while in my laboratory. Formerly, as Deputy Chief of IIDL, I and Dr. Anton Jetten (then, IIDL Chief) recruited Dr. Jennifer Martinez to IIDL as a Tenure-Track Investigator. During my time as Acting Chief of IIDL, we initiated a 'Women in Science Coffee Hour' (conceived and organized by Dr. Jennifer Martinez) in which female outside speakers meet with trainees during their NIEHS visit to discuss career development. I have also held recurrent discussions with IIDL Group Leaders about specific measures that can be taken to improve diversity in IIDL. In 2022, I participated in a 7-week NIH (OIR/COSWD) Diversity, Equity, Inclusion, and Accessibility Workshop Series and in a one-day DEIA course on inclusivity (Small World Solutions 'The New IQ'). I also participated in an NIEHS DIR Working Group on DEIA tasked to provide recommendations to leadership.

Regarding outreach, in 2014, I delivered an oral presentation on translational research and biomedical careers to area high school teachers at the Rx for Science Literacy Workshop of the NC Association for Biomedical Research. In 2015, I gave an oral presentation on my research to students at Athens Drive High School in Raleigh, NC. I have also participated in the ATS Mentoring Program, and in the NIEHS mentoring program (I mentored a Triangle Charter High School student in 2022). As an active clinician, I also spend 1 month per year on medical service as an attending physician in the medical intensive care unit of the Durham VA Medical Center. I perform these duties on a Without Compensation (WOC) status. In this role, I have interacted directly with, and mentored numerous medical students, medical housestaff, and clinical fellows over the past 12 years. I also serve on the Training Faculty of the UNC Curriculum in Toxicology (CiT), as well as on its Executive Committee. In this capacity, I have served on a PhD thesis committee (student: Adam Speen), have hosted a UNC student who obtained an M.S. while in my laboratory (Michael Henderson), and have also served as a consultant for the CiT program. For several years following 2012, I served as an Associate Mentor on the NIH T32 Training Grant for the Integrative Lipid Sciences Training Program at Wake Forest University during which time I also served on the thesis committee for one of the students in the program (Caleb Lord).

## **IX. Professional Affiliations**

American Thoracic Society

NIH Translational Research Interest Group

## **X. Professional Service and Committees**

### **Extramural**

- |                |                                                                                                                                                             |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2003-2006      | Member, University Hospital Critical Care Committee, University of Colorado School of Medicine, Denver, CO                                                  |
| 2003, '04, '08 | Chair, Functional Genomics and Proteomics Poster Discussion Session<br>American Thoracic Society International Conference                                   |
| 2004           | Chair, Symposium: 'Recharting Ancient Pathways: Proteomics, the Next Frontier of Inflammation Research', American Thoracic Society International Conference |
| 2005-2006      | Member, Credentialing Committee<br>National Jewish Medical and Research Center, Denver, CO                                                                  |

- 2008-2011 Member, Program Committee, Respiratory Cell and Molecular Biology Assembly  
American Thoracic Society
- 2008- Consultant on extramural R01 award  
HL94525 to Dr. John S. Parks (Wake Forest University)
- 2009 Chair, 'Unusual Suspects: New Roles for Old Lipids in Lung Disease & Critical  
Illness' Scientific Symposium, American Thoracic Society International Conference
- 2010 Chair, 'Molecular Phenotypes: Bench to Bedside Diagnosis' Scientific Symposium  
American Thoracic Society International Conference
- 2010 Lead Facilitator, Thematic Poster Session: 'Regulating Cell Growth and Survival',  
American Thoracic Society International Conference
- 2010-2012 Member, Environmental Health Policy Committee, American Thoracic Society
- 2011 Chair, Poster Discussion Session: 'NF-kB: Regulation and Exploitation'  
American Thoracic Society International Conference
- 2011 Chair, 'Damage-associated Molecular Patterns in Lung Disease and Critical Illness  
Scientific Symposium, American Thoracic Society International Conference
- 2011 Facilitator, Thematic Poster Session: 'Systems Biology and Molecular Profiling'  
American Thoracic Society International Conference
- 2011 Facilitator, Thematic Poster Session: 'Airway Immune Mechanisms and  
Inflammation', American Thoracic Society International Conference
- 2012 Associate Mentor, Training Grant NHLBI T-32 091797; Integrative Lipid Sciences,  
Inflammation, and Chronic Disease Training Program; Wake Forest University
- 2012 Facilitator, Thematic Poster Session: 'Recent Advances in Phagocyte Biology'  
American Thoracic Society International Conference
- 2013 Facilitator, Poster Discussion Session: 'Airway Epithelial Activation and Dysfunction'  
American Thoracic Society International Conference
- 2013 Consultant on funded extramural R01 application  
'The Role of Lumican in the Cornea,' to National Eye Institute, by Dr. Shukti  
Chakravarti, Johns Hopkins University School of Medicine
- 2013-present Working Group on Metabolomics and Proteomics, Assembly on Respiratory Cell &  
Molecular Biology, American Thoracic Society
- 2013 Moderator, Obesity and Host Defense Session  
Obesity and Metabolism: An Emerging Frontier in Health and Disease Meeting  
University of Vermont, Burlington, VT
- 2014-2020 Member, Planning Committee; Asthma, Inflammation, and Immunology Assembly  
American Thoracic Society
- 2014 Facilitator, Thematic Poster Session: 'Asthma: Preclinical Studies'  
American Thoracic Society International Conference
- 2014-present Member, Steering Committee, Visiting Pulmonary Scholar Program
- 2015 Chair/Moderator, Course at AAAAI Annual Meeting: 'NIEHS: Emerging Roles for  
Cholesterol Dysregulation and its Treatment in Lung Disease', Houston, TX
- 2015 Chair, NIEHS Scientific Symposium, American Thoracic Society International  
Conference
- 2015-2019 Member, Executive Committee, Curriculum in Toxicology  
University of North Carolina Chapel Hill
- 2015 Co-chair of 'Lipid Mediators' symposium  
48<sup>th</sup> Annual Meeting of the Society for Leukocyte Biology, Raleigh, NC

- 2016 Chair, 'Emerging Immune Functions of the Pulmonary Epithelium' Scientific Symposium, American Thoracic Society International Conference
- 2017- Member, Program Committee; Allergy, Immunology & Inflammation Assembly American Thoracic Society
- 2018- Mentor, American Thoracic Society Mentoring Program
- 2019- Member, External Advisory Committee, 'Lung Biology and Disease' COBRE, Louisiana State University School of Veterinary Medicine
- 2019- Member, External Advisory Committee, Vermont Lung Center Training Program
- 2020- Member, Experimental ALI Working Group, American Thoracic Society
- 2021- Member, Dissertation Committee, Marissa Guttenberg (Duke University, Nicholas School of the Environment).
- 2021- Member, K99/R00 Advisory Committee, Filiz Korkmaz (Boston University, Department of Medicine).
- 2021- Member, External Advisory Committee, ONES Award (PI: Salik Hussain, WVU)
- 2022 Chair, 'Myeloid Heterogeneity in the Lung' Scientific Symposium American Thoracic Society International Conference
- 2022 Chair, GRC on Immunometabolism in Health and Disease Bryant University, Smithfield, RI

#### **Intramural (NIEHS/NIH)**

- 2006-2007 Member, Training and Education Committee
- 2007-2011 Member, Institutional Review Board
- 2007-present Medical Officer, Mechanisms of Susceptibility to Oxidant Stress-Induced Disease Program, Director's Challenge Program
- 2008-present Member, Clinical Advisory Council
- 2008 Meeting Organizer and Chair, NIEHS Symposium on Lipid Raft Biology
- 2007-present Poster Judge, Science Day
- 2008 Host, Distinguished Lectureship Program, May, 2008  
Speaker: Dr. Kai Simons (Director Emeritus, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany)
- 2008, 2012 Panelist, Fellows Grantsmanship Course
- 2009, '10, '13 Panelist, Summers of Discovery Career Panel
- 2010 Organizer, Laboratory of Respiratory Biology Retreat
- 2010-2013 Member, Committee on Promotions III (COPIII)
- 2011 Member, DIR Pulse Action Plan Committee
- 2011 Member, NIEHS Strategic Planning Stakeholder Community Workshop
- 2011 Member, NIEHS Clinical Research Support Services Contract Review Panel
- 2011-2015 Member, NIEHS Alton Inhalation Facility Oversight Committee
- 2012-2014 Councilor (elected position), NIEHS Assembly of Scientists Council
- 2012 Member, CRU Staff Clinician Search Committee, NIEHS
- 2012- Member, NIH Center for Human Immunology
- 2012, 2013 Member, NIH Stadtman Immunology Search Committee
- 2012 Chair, Pulmonary/Cardiovascular Disease Subcommittee  
NIEHS Inflammation Cross-Divisional Implementation Committee
- 2012 Member, DIR Retreat Planning Committee
- 2013 Judge, NIH Fellows Award for Research Excellence (FARE) Travel Award Competition

2013 Member, Selection Panel for Administrative Coordination Specialist, DIR  
 2014- Member, Cross-Divisional Inflammation Evaluation Design Team  
 2014 Member, DIR Intramural Research Program Review Group  
 2014 Member, Targeted Tenure Track Investigator Search Committee  
 2014- Member, NIEHS Pathology Core Committee  
 2014- Member, NIEHS Environmental Polymorphisms Registry Steering Committee  
 2014- Co-Chair, Epidemiology Branch Tenure Track Investigator Search Committee  
 2014- Member, DIR Space and Renovations Advisory Committee  
 2014- Member, Committee on Promotions I (COP I)  
 2014- Member, Steering Committee, NIEHS Inflammation Faculty  
 2014- Member, Planning Committee, NIEHS Inflammation Workshop  
 2015 Member, Neurobehavioral Facility Head-Staff Scientist Search Committee  
 2015 Chair, Planning Committee, NIEHS DIR Retreat  
 2015- Member, NIEHS Fluorescence Imaging Core Facility Advisory Committee  
 2016- Member, Staff Pathologist Search Committee, NTP  
 2016 Acting Chair, STL Staff Scientist Search Committee  
 2016- Chair, NIEHS Conventional Animal Facility Steering Committee  
 2017- Member, Steering Committee, NIH Inflammatory Disease Interest Group  
 2018- Chair, NL Tenure Track Investigator Search Committee  
 2018- Member, Stadtman Search Committee on Immunology  
 2018- Chair, Environmental Polymorphisms Registry Internal Advisory Committee  
 2018 Session Chair, CIG Immunometabolism Symposium, NIH, Bethesda, MD  
 2018- Member, NIEHS Metabolomics Task Force  
 2019-2023 Member, NIH Central Tenure Committee  
 2019- NIEHS Tenure Track Advisory Committee  
 2020 Member, Search Committee for Chief of STL, NIEHS  
 2020 Member, Search Committee for TTI for IIDL  
 2020 Member, Search Committee for Lead Staff Scientist, NIEHS Metabolomics Core  
 2020- Member, Search Committee for TTI for CRB  
 2020- Member, Search Committee for Senior Clinical for EAG/CRB  
 2020- PI, NIEHS Trans-NIH Metabolomics Consortium  
 2020 Chair, Subcommittee of Lab Chiefs to Prioritize DIR Scientific Hiring Areas  
 2020 Co-Chair, NIH Stadtman Immunology Search Committee  
 2020- DIR Subject Matter Expert, COVID-19  
 2021- Member, TTI Advisory Committee, Dr. Ian Myles (TTI, NIAID)  
 2022-2023 Member, DIR DEIA Working Group  
 2022-2023 Chair, Search Committee for Senior Clinician/CRU Director, CRB  
 2022-2023 Chair, Search Committee for Staff Clinician, CRB  
 2022 Chair, NIH Stadtman Immunology Search Committee  
 2022 Invited participant, 2024-2028 NIEHS Strategic Plan Stakeholder Community Workshop  
 2023 Member, Clinical Pathologist Search Committee, CMPB, DTT  
 2023 Member, IIDL Tenure-Track Investigator Search Committee  
 2024- Chair, NIEHS Distinguished Lecture Series Committee  
 2024 Panelist, NIEHS Tenure-Track Investigator Retreat

## **XI. Review and Referee Activities**

**Editorial Boards:**

Member, Editorial Board, Am. Journal of Respiratory Cell and Molecular Biology (2014-present)  
 Associate Editor, Am. Journal of Respiratory Cell and Molecular Biology (2019-2023)  
 Deputy Editor, Am. Journal of Respiratory Cell and Molecular Biology (2023-present)  
 Faculty Member, *Faculty of 1000 Medicine* (2010 – present)  
 Academic Editor, *PLoS ONE* (2010 – 2018)

**Ad hoc journal reviewer:**

*Blood, Cell Metabolism, Cell Host & Microbe, Journal of Immunology, American Journal of Respiratory and Critical Care Medicine, Journal of Biological Chemistry, Journal of the American Medical Association, PLoS ONE, PLoS Computational Biology, PLoS Genetics, Journal of Leukocyte Biology, American Journal of Respiratory Cell and Molecular Biology, Journal of Proteome Research, Proteomics, Environmental Health Perspectives, Toxicological Sciences, Biochemical Pharmacology, Physiological Genomics, Journal of Pediatrics, Occupational and Environmental Medicine, Clinical & Experimental Allergy, Journal of Pharmacology and Experimental Therapeutics, Molecular Therapy – Nucleic Acids, Journal of Allergy & Clinical Immunology, Journal of the American College of Cardiology, BBA Biomembranes, Journal of Innate Immunity, Lancet Respiratory Medicine, Scientific Reports, JCI*

**Study Sections**

2012 American Thoracic Society Foundation research review, Jersey City, NJ  
 2015, 2016 Reviewer, Biomedical Advanced Research & Development Authority, DHHS  
 2022, 2023 Reviewer, American Thoracic Society Scientific Grant Review Committee

**Ad hoc grant application reviewer:**

2004 Peer-Reviewed Medical Research Program, U.S. Department of Defense  
 2004 Cystic Fibrosis Pilot Grant Program, Toronto Hospital for Sick Children  
 2006 Pilot/Feasibility Grant, Yale Skin Diseases Research Core Center  
 2007 Integrated Laboratory Systems, Inc., Project Concept Review N11  
 2010 Chilean National Science and Technology Research Fund (FONDECYT; Chile)  
 FONDECYT National Research Funding Competition  
 2011 Standard Proposal, Biotechnology and Biological Sciences Research Council (U.K.)  
 2013 National Peer Reviewer, Arizona Biomedical Research Commission  
 2014 Reviewer, Research Fellowship, Sigma Delta Epsilon/Graduate Women in Science  
 2014-present Scientific Reviewer, NIH Intramural Loan Repayment Program  
 2014 Reviewer, National Jewish Hospital Challenge Grant Program  
 2014 Reviewer, Director's Investigator Awards Program, NICHD/NIH  
 2018 Reviewer, NIEHS-NIA Joint Fellowship Program  
 2018 Reviewer, Medical Research Council (U.K.)  
 2020 Reviewer, NIEHS NOSI on COVID-19  
 2022 Reviewer, Medical Research Council (U.K.)  
 2023 Reviewer, Doctoral Fellowship Proposal, Austrian Academy of Sciences

**XII. Teaching/Training Activities**

2001-2004 Teaching Assistant, Pulmonary Pathophysiology Course, University of Colorado School of Medicine

- 2002 Founding Contributor/Author, The MGH Primary Care Syllabus. Lippincott, Williams & Wilkins. 2002.
- 2002-2006 Attending Physician, Pulmonary Consult Service, Intensive Care Unit  
Denver Health Medical Center, Denver, CO
- 2002-2006 Attending Physician, Pulmonary Consult Service, University Hospital, Denver, CO
- 2003-2004 Lecturer, Management of Acute Respiratory Distress Syndrome  
Critical Care Conference Series, Fellowship in Pulmonary and Critical Care  
Medicine, University of Colorado School of Medicine
- 2003-2004 Lecturer, Respiratory and Hemodynamic Mechanics of the Ventilated Patient  
Critical Care Conference Series, Fellowship in Pulmonary and Critical Care  
Medicine, University of Colorado School of Medicine
- 2003-2014 Literature Reviewer  
*Practical Reviews in Critical Care Medicine*, Oakstone Medical Publishing.
- 2004-2005 Chiron Bronchiectasis and Ventilator-Associated Pneumonia Training Program  
Speaker, 'Ventilator-Associated Pneumonia: A Pulmonologist's Perspective'
- 2004-2006 Attending Physician, Pulmonary Fellows Clinic  
National Jewish Medical and Research Center, Denver, CO
- 2007-present Attending Physician – Medical Intensive Care Unit; Pulmonary Consult Service  
Durham Veterans Affairs Medical Center, Durham, NC
- 2010-2013 Member, Graduate Thesis Committee  
Student: Caleb Lord (Wake Forest University, Department of Pathology)
- 2014-2018 Member, Graduate Thesis Committee  
Student: Matthew McPeck (East Carolina University, Department of Toxicology)
- 2015-2020 Member, Graduate Thesis Committee  
Student: Adam Speen (University of North Carolina-CH, Toxicology Curriculum)
- 2020- Member, Graduate Thesis Committee  
Student: Marissa Guttenberg (Duke Integrated Toxicology & Environmental Health  
Program, Duke University School of Medicine)
- 2023 Panelist, Faculty Retreat, NC Diabetes Research Foundation

### **XIII. Talks at National/International Research Meetings**

- 2001 A Proteomic Analysis of Lipopolysaccharide Stimulation of the Human Neutrophil.  
Aspen Lung Conference, Aspen, CO
- 2002 Cholesterol Content Affects Inflammatory Potential of the Neutrophil.  
American Thoracic Society International Conference
- 2003 A Practical Introduction to Proteomic Analysis (invited speaker)  
Post-Graduate Course: "The Whole World Genomics Do-it-Yourself Course"  
American Thoracic Society International Conference
- 2003 Genomic and Proteomic Profiling of the Lipopolysaccharide-Stimulated Human  
Neutrophil (invited speaker), Pittsburgh International Lung Conference
- 2004 Proteomic Approaches to the Study of Signal Transduction and Inflammation.  
'Sunrise Seminar', American Thoracic Society International Conference
- 2005 Liver X Receptor Regulates Pulmonary Innate Immunity  
Minisymposium, American Thoracic Society International Conference

- 2006 Proteomic Approaches to the Study of Signal Transduction and Inflammation. 'Sunrise Seminar', American Thoracic Society International Conference
- 2006 A Dual Role for RhoA in Activation of the Human Neutrophil (invited speaker) Grover Conference on the Pulmonary Circulation, Deckers, CO
- 2007 Proteomic Approaches to the Study of Signal Transduction and Inflammation. 'Sunrise Seminar', American Thoracic Society International Conference
- 2009 Cholesterol, a Novel Modifier of Airways Disease: Lessons from Mouse & Man Scientific Symposium, American Thoracic Society International Conference
- 2009 Proteomic Discovery and Functional Validation of Rafts in Inflammation Biology 'Allergy as a mechanism-based case study to apply omics in food and chemicals safety assessment' Workshop (invited speaker) European Commission Joint Research Centre; Ispra, Italy
- 2010 Proteomic Profiling Reveals New Biology in Macrophage Innate Immune Response Scientific Symposium, American Thoracic Society International Conference
- 2010 Lipids/Cholesterol in Acute Lung Injury (invited speaker) Scientific Symposium, American Thoracic Society International Conference
- 2011 Coupling Between Cholesterol and Innate Immunity at the Plasma Membrane Scientific Symposium, American Thoracic Society International Conference
- 2011 MyD88 couples reverse cholesterol transport to inflammation (invited speaker) Gordon Research Conference on Atherosclerosis; Salve Regina University, Newport, RI
- 2013 APOE4 is associated with enhanced innate immune responses and sepsis severity in humans, Gordon Research Conference on Vascular Cell Biology, Ventura, CA
- 2015 A Role for Cholesterol-25-hydroxylase in Resolution of Pulmonary Neutrophilia. American Academy of Allergy, Asthma, and Immunology Annual Meeting Houston, TX
- 2015 p53 as integrator of environmental inputs to inflammation NIEHS Symposium, American Thoracic Society International Conference
- 2015 A Role for Cholesterol-25-hydroxylase in Resolution of Pulmonary Neutrophilia Scientific Symposium, American Thoracic Society International Conference
- 2015 SR-BI in the integrated pulmonary host defense response Scientific Symposium, American Thoracic Society International Conference
- 2015 A novel role for oxysterols in resolution of neutrophilia 48<sup>th</sup> Annual Meeting of the Society for Leukocyte Biology, Raleigh, NC
- 2021 Sterols in Lung Homeostasis and Immunity FASEB: The Nutrition, Immunity, and Inflammation Conference: From Model Systems to Human Trials
- 2022 Cholesterol in Pulmonary Immunity; Society of Toxicology Annual Meeting; San Diego, CA
- 2022 Oxysterols and LXRs in Pulmonary Immunity; ACR Convergence; Philadelphia, PA
- 2023 Keynote lecture, Third Conference on Small Airways and PExA, University of Gothenburg, Sweden
- 2023 ENDO 2023 (Endocrine Society meeting); Chicago, IL
- 2024 The 52nd Annual Meeting of the Japanese Society for Immunology; Tokyo, Japan (*programmed*)

**Miscellaneous Invited Research Talks**

- 2002 A Proteomic Analysis of Lipopolysaccharide Stimulation of the Human Neutrophil.  
Immunology Research in Progress Seminar, NJMRC
- 2003 A Role for Lipid Rafts in Lipopolysaccharide Signal Transduction in the Human  
Neutrophil, Cardiovascular Research Conference, Cardiology Division, UCHSC
- 2003 Functional Proteomics of LPS-induced TNF- $\alpha$  Production by the Human Neutrophil  
Pulmonary Research Conference, Duke University Medical Center
- 2004 A Novel Role for Hydroxymethyl-Glutaryl Coenzyme A in LPS-Induced Acute Lung  
Injury, Denver Health Medical Center Critical Care Grand Rounds
- 2004 Functional Proteomics of LPS-induced TNF- $\alpha$  Production by the Human Neutrophil  
University of Colorado Proteomics Center
- 2006 A Novel Role for Cholesterol in Innate Immunity Signaling  
Department of Pathology, Wake Forest University
- 2008 Global Proteomics and Relative Quantification in Toxicology  
Winter Symposium, RTP Drug Metabolism Discussion Group  
North Carolina Biotechnology Center
- 2008 Innate Immunity as a Physiologic Signal in Cholesterol Homeostasis  
Pulmonary Research Conference, Duke University Medical Center
- 2008 Dyslipidemia Modulates Pulmonary Innate Immunity: Studies in Mouse & Man  
Airway Biology Seminar Series, Duke University Medical Center
- 2008 MyD88 Couples Reverse Cholesterol Transport to Inflammation  
Symposium on Lipid Raft Biology, NIEHS
- 2008 Quantitative Proteomic Analysis of Macrophage Lipid Rafts Reveals a Role for the  
Proteasome in Compartmentalized Activation of ERK  
Laboratory of Pharmacology / Laboratory of Molecular Toxicology, NIEHS
- 2008 Environmental and Genetic Dyslipidemia Modulate Pulmonary Innate Immunity  
Cystic Fibrosis Center, University of North Carolina
- 2009 Emerging Roles for Cholesterol in Pulmonary Innate Immunity  
Dept. of Immunology, Duke University
- 2009 A Novel Complex Role for Cholesterol in Pulmonary Innate Immunity  
Dept. of Microbiology, North Carolina State University
- 2009 MyD88 Couples Reverse Cholesterol Transport to Inflammation  
Dept. of Pathology, Wake Forest University
- 2009 MyD88 Couples Cholesterol Trafficking to Innate Immunity  
Laboratory of Signal Transduction, NIEHS
- 2010 Emerging Roles for Cholesterol in Pulmonary Innate Immunity  
Pulmonary and Vascular Medicine Branch, NHLBI, NIH, Bethesda, MD
- 2010 Cholesterol in Asthma: Bench to Bedside Insights  
NIH Research Festival, Bethesda, MD
- 2010 S-Acylproteomics of the Macrophage Reveals a Role for Palmitoylation in  
Mitochondrial Targeting of Plscr3  
NIH Research Festival, Bethesda, MD
- 2010 Novel Roles for Cholesterol in Pulmonary Host Defense  
University of Vermont Lung Center
- 2010 Animal Models of Environmental Endotoxin Exposure

- Evaluating Health Effects to Communities of Confined Animal Feeding Operations  
North Carolina State University
- 2011 Tumor Suppressor p53 Integrates Host Defense and Cell Fate During Pneumonia  
Duke University Airway Biology Forum
- 2011 Effects of Cholesterol on Pulmonary Inflammation (invited speaker)  
Fall 2011 Pulmonary Research Group Symposium, Stowe, VT
- 2012 Cholesterol as a Novel Modifier of Lung Immunity  
Grand Rounds, NIH Clinical Center, Bethesda, MD
- 2012 Tumor Suppressor p53 Integrates Host Defense and Cell Fate  
Lung Research Conference, Division of Pulmonary and Critical Care Medicine  
Johns Hopkins School of Medicine
- 2012 Tumor Suppressor p53 Integrates Host Defense and Cell Fate  
Molecular & Cellular Immunology Shock/Trauma Research Center  
University of Missouri Kansas City Medical School
- 2012 Cholesterol Trafficking Modifies Pulmonary Immune Responses  
Division of Pulmonary, Critical Care, and Sleep Medicine  
Brody School of Medicine, East Carolina University
- 2012 Tumor Suppressor p53 Integrates Host Defense and Cell Fate  
Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine  
Ohio State University
- 2013 Tumor Suppressor p53 Integrates Host Defense and Cell Fate  
Departments of Pathobiological Sciences and Comparative Biomedical Sciences  
School of Veterinary Medicine, Louisiana State University
- 2013 SR-BI in the Integrative Physiology of Bacterial Pneumonia  
University of Vermont Obesity Conference, Burlington, VT
- 2013 Tumor Suppressor p53 Integrates Host Defense and Cell Fate  
NCSU Workshop on Allergy and Inflammation; NCSU McKimmon Center; Center for  
Comparative Medicine and Translational Research, Raleigh, NC
- 2014 APOE4 as a determinant of the human innate immune response  
NIEHS Clinical Research Unit 'TED' talk
- 2014 APOE4 as a determinant of the human innate immune response  
Rx for Science Literacy Workshop, NC Association for Biomedical Research
- 2014 A Bench to Bedside Study of APOE4 in the human innate immune response  
142<sup>nd</sup> Meeting of the National Advisory Environmental Health Sciences Council  
NIEHS, Research Triangle Park, NC
- 2014 A role for cholesterol 25-hydroxylase in resolution of alveolar neutrophilia  
NIH Cytokine Interest Group Lipid Mediators in Inflammation & Disease Meeting  
NIH, Bethesda, MD
- 2014 Role of SR-BI in the integrated host defense response during pneumonia  
Receptor Mechanisms Discussion Group, NIEHS
- 2015 Novel roles for oxysterols in resolution of inflammation and critical illness  
Signal Transduction Laboratory Seminar Series, NIEHS
- 2015 The pulmonary host defense response  
Toxicology Curriculum seminar series, University of North Carolina
- 2015 Oxysterols in resolution of lung inflammation  
North Carolina State University Toxicology Program Seminar Series; Raleigh, NC

|      |                                                                                                                                         |
|------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 2015 | Oxysterols as mediators and biomarkers of inflammation resolution<br>University of Vermont Obesity Conference; Burlington, VT           |
| 2016 | Novel roles for oxysterols in resolution of inflammation<br>NIH Immunology Interest Group Seminar Series, NIH main campus, Bethesda, MD |
| 2016 | Oxysterols in resolution of inflammation<br>Seminar Series, Pulmonary Division, National Jewish Hospital, Denver, CO                    |
| 2016 | Proteomic analysis of cellular signaling<br>Proteomics & Metabolomics Workshop, National Jewish Hospital, Denver, CO                    |
| 2016 | Novel roles for oxysterols in resolution of inflammation<br>Seminar Series, Dept. of Microbiology & Immunology, Wake Forest University  |
| 2016 | Keynote speaker<br>Duke University Innate Immunity Symposium                                                                            |
| 2016 | Oxysterols in resolution of inflammation; Metabolism & Pathogens Symposium,<br>Rocky Mountain Laboratories, NIAID/NIH, Hamilton, MT     |
| 2017 | Transatlantic Airway Conference; Lucerne, Switzerland                                                                                   |
| 2017 | NIH Inflammatory Diseases Interest Group Seminar Series; NIH Main Campus<br>Bethesda, MD                                                |
| 2017 | Duke Innate Immunity Group; Duke University, Durham, NC                                                                                 |
| 2018 | NIEHS IIDL Special Seminar                                                                                                              |
| 2018 | NIEHS Symposium: New Approaches for Characterizing Mitochondrial Signaling in<br>Response to Environmental Stress                       |
| 2019 | NIEHS DERT Symposium on Inflammation Resolution                                                                                         |
| 2019 | NIH Cytokine Interest Group Symposium, Bethesda, MD: 'Cytokines &<br>Autoimmunity'                                                      |
| 2019 | Respiratory Research Symposium, Novartis Institutes for Biomedical Research                                                             |
| 2020 | Lung Research Conference, Pulmonary/CCM Division, Johns Hopkins University                                                              |
| 2020 | Signal Transduction Laboratory Seminar Series, NIEHS                                                                                    |
| 2020 | BRITE Spring Seminar Series, North Carolina Central University ( <i>cancelled</i><br>[COVID])                                           |
| 2020 | Clinical Research Branch Seminar Series, NIEHS                                                                                          |
| 2020 | Epigenetics and Stem Cell Biology Laboratory Seminar Series, NIEHS                                                                      |
| 2022 | Southeastern Immunology Symposium; Duke University                                                                                      |
| 2022 | Gordon Research Conference on Biology of Acute Respiratory Infection; Ventura, CA                                                       |
| 2023 | Pulmonary Grand Rounds, Duke PCCM Division, Duke University                                                                             |
| 2023 | Cedars-Sinai Visiting Scientist Seminar, PCCM Division, Cedars-Sinai Medical Center                                                     |
| 2024 | Pulmonary Grand Rounds, University of Alabama Birmingham PCCM Division                                                                  |

#### **XIV. Research Grants, Contracts, and Special Grants**

##### **A. Previous Research Grant Support**

###### **AHA # 0275035N**

###### **American Heart Association - Michael Fessler, Principal Investigator**

"Modulation of Inflammation by Cholesterol and HMG Co-A Reductase Inhibitors: Role of the Lipid Raft"

Total Award Period - 7/1/02 - 6/30/06      \$593,000

###### **Atorvastatin Research Awards Program**

###### **Pfizer – Michael Fessler, Principal Investigator**

“A Novel Therapeutic Role for Statins in Acute Lung Injury: Targeting the Neutrophil Cytoskeleton”  
Total Award Period – 7/04 – 6/06                      \$100,000

**Andrew Goodman Research Fellowship Award**                      2001  
National Jewish Medical and Research Center

**Individual National Research Service Award** [declined]                      2002

## B. Current Support

**NIH 1 Z01 ES102005**                      2006-present  
‘Cell Signaling of Host Defense’ (NIEHS Intramural Research Program)

**Intramural Research Award**                      2010-2013  
NIEHS Intramural Research Program

## XIV. Bibliography

### Original Scientific Manuscripts

1. Wang TJ, Mort EA, Nordberg P, Chang Y, Cadigan ME, Mylott L, Ananian LV, Thompson BT, **Fessler M**, Warren W, Wheeler A, Jordan M, Fifer MA. Utilization Management Intervention to Reduce Unnecessary Testing in the Coronary Care Unit. *Archives of Internal Medicine* 2002; 162(16):1885-90.
2. **Fessler MB**, Malcolm KC, Duncan MW, Worthen GS. A Genomic and Proteomic Analysis of Activation of the Human Neutrophil by Lipopolysaccharide and Its Mediation by p38 Mitogen-activated Protein Kinase. *Journal of Biological Chemistry* 2002; 277(35):31291-31302.
3. **Fessler MB**, Malcolm KC, Duncan MW, Worthen GS. New Experimental Approaches to the Signaling of Innate Immunity. *American Journal of Respiratory Cell & Molecular Biology* 2004; 31(Supp):S62-66.
4. Frasch SC, Henson PM, Nagaosa K, **Fessler MB**, Borregaard N, Bratton L. Phospholipid Flip-Flop and Phospholipid Scramblase (PLSCR 1) Co-localize to Uropod Rafts in fMLP Stimulated Neutrophils. *Journal of Biological Chemistry* 2004; 279:17625 – 17633.
5. **Fessler MB\***, Arndt PG, Frasch SC, Lieber JG, Bratton DL, Malcolm KC, Worthen GS. Lipid Rafts Regulate Lipopolysaccharide-Induced Activation of Cdc42 and Inflammatory Functions of the Human Neutrophil. *Journal of Biological Chemistry* 2004; 279:39989 – 39998.  
\*Corresponding author
6. Walker TS, Worthen GS, Poch KR, Lieber JG, Saavedra MT, Malcolm KC, **Fessler MB**, Vasil ML, Nick JA. Enhanced *Pseudomonas aeruginosa* biofilm development mediated by human neutrophils. *Infection & Immunity* 2005; 73(6):3693-701

7. Arndt PG, Young SK, Lieber JG, **Fessler MB**, Nick JA, Worthen GS. Systemic inhibition of c-Jun-NH2-Terminal Kinase Decreases Pulmonary Neutrophil Recruitment and Modulates Actin Assembly after LPS Exposure. *American Journal of Respiratory and Critical Care Medicine* 2005; 171:978-986
8. **Fessler MB\***, Young SK, Arndt PG, Walker T, Palic MR, Lieber JG, Jeyaseelan S, Nick JA, Worthen GS. A Role for HMG-CoA Reductase in Pulmonary Inflammation and Host Defense. *American Journal of Respiratory and Critical Care Medicine* 2005; 171:606-615.  
\*Corresponding author
9. Morimoto K, Janssen WJ, **Fessler MB**, McPhillips KA, Borges VM, Bowler RP, Xiao YQ, Kench JA, Henson PM, Vandivier RW. Lovastatin Enhances Clearance of Apoptotic Cells (Efferocytosis) with Implications for Chronic Obstructive Pulmonary Disease. *Journal of Immunology* 2006; 176(12):7657-65
10. Cha SI, **Fessler MB**, Cool CD, King TE, Brown KK. Lymphoid Interstitial Pneumonia: Clinical Features, Associations, and Prognosis. *European Respiratory Journal* 2006; 28(2):364-9
11. Jeyaseelan S, Young SK, **Fessler MB**, Liu Y, Malcolm KC, Yamamoto M, Akira S, and Worthen GS. TRIF-Mediated Signaling Contributes to Innate Immune Responses in the Lung During *Escherichia coli* Pneumonia. *Journal of Immunology* 2007; 178(5):3153-60.
12. **Fessler MB\***, Arndt PG, Nick JA, Malcolm KC, Worthen GS. A Dual Role for RhoA in Suppression and Induction of Cytokines in the Human Neutrophil. *Blood* 2007; 109(3):1248-56. \*Corresponding author
13. Brass DM, Hollingsworth JW, **Fessler MB**, Savov JD, Maxwell AB, Whitehead GS, Burch LH, Schwartz DA. The IL-1 type 1 receptor is required for the development of LPS-induced airways disease. *Journal of Allergy and Clinical Immunology* 2007; 120(1):121-7.
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\*Corresponding author
16. Dhungana S, Merrick BA, Tomer K, **Fessler MB**. Quantitative Proteomic Analysis of Macrophage Rafts Reveals Compartmentalized Activation of the Proteasome and of Proteasome-mediated ERK Activation in Response to Lipopolysaccharide. *Molecular & Cellular Proteomics* 2009; 8(1):201-213.

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### Manuscripts in Progress

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### Book Chapters

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**Case Reports**

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**Miscellaneous**

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