

CURRICULUM VITAE

MICHAEL B. FESSLER, M.D.

I. Personal History

Present Position Rank: Clinical Investigator, Group Leader – Host Defense
Laboratory of Respiratory Biology, Division of Intramural Research
National Institute of Environmental Health Sciences
National Institutes of Health, Department of Health and Human Services

II. Educational History

Princeton University

B.A. in Philosophy 1992
Magna Cum Laude, Phi Beta Kappa, Cane Scholarship Recipient

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
2002 Pulmonary Medicine
2004 Critical Care Medicine

Medical Licensure

Colorado 2003-2007
North Carolina 2006-

III. Professional Positions

2006-present Clinical Investigator (Tenure-Track)
Division of Intramural Research, National Institute of Environmental Health Sciences,
NIH, DHHS

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 Medical and Research Center
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

IV. Honors and Awards

- 1992 Phi Beta Kappa, Magna Cum Laude, Cane Scholarship
Princeton University
- 2001 Andrew Goodman Research Fellowship Award
National Jewish Medical and Research Center

V. Professional Affiliations

- 1999-present American Thoracic Society
2001-present American College of Physicians
2004-present American Society for Biochemistry and Molecular Biology
2004-present Federation of American Societies for Experimental Biology
2005 Front Range Innate Immunity Group

VI. Professional Service and Committees

- 2006-present Member
Training and Education Committee
NIEHS, NIH, DHHS
- 2003-2006 Member
University Hospital Critical Care Committee
University of Colorado School of Medicine
Denver, CO
- 2005-2006 Member
Credentialing Committee
National Jewish Medical and Research Center
Denver, CO

- 2004-2006 Member
Website Editorial Board, Critical Care Assembly
American Thoracic Society
- 2003, 2004 Chairman
Functional Genomics and Proteomics Poster Session
American Thoracic Society International Conference
- 2004 Chairman
Symposium: 'Recharting Ancient Pathways: Proteomics, the Next Frontier of
Inflammation Research'
American Thoracic Society International Conference

VII. Review and Referee Activities

Journal Reviewer:

- 2003-present *Journal of Clinical Anesthesia*
2004-present *American Journal of Respiratory Cell and Molecular Biology*
2005- *Journal of Proteome Research*
2006- *Blood*

Grant Reviewer:

- 2006 Pilot/Feasibility Grant
Yale Skin Diseases Research Core Center
- 2004 Peer-Reviewed Medical Research Program
Department of Defense
- 2004 Cystic Fibrosis Pilot Grant Program
Toronto Hospital for Sick Children

VIII. Teaching Activities

- 2001-2004 Teaching Assistant
Pulmonary Pathophysiology Course
University of Colorado School of Medicine
- 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
- 2004-2006 Attending Physician
Pulmonary Fellows Clinic
National Jewish Medical and Research Center
Denver, CO
- 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
- 2003-2006 Literature Reviewer
Practical Reviews in Critical Care Medicine, Oakstone Medical Publishing.
- 2002 Founding Contributor/Author
The MGH Primary Care Syllabus. Lippincott, Williams & Wilkins. 2002.
- 2004-2005 Chiron Bronchiectasis and Ventilator-Associated Pneumonia Training Program
Speaker, 'Ventilator-Associated Pneumonia: A Pulmonologist's Perspective'

INVITED TALKS AT INTERNATIONAL RESEARCH MEETINGS

- 2001 A Proteomic Analysis of Lipopolysaccharide Stimulation of the Human
Neutrophil.
Aspen Lung Conference, Aspen, CO
- 2002 Cholesterol Content Affects MAP Kinase Activation and Inflammatory Potential
of the Neutrophil.
American Thoracic Society International Conference
- 2003 A Practical Introduction to Proteomic Analysis.
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.
Pittsburgh International Lung Conference
- 2004 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
Grover Conference on the Pulmonary Circulation

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: Activation of Cdc42
Cardiovascular Research Conference, Cardiology Division, UCHSC

2003 Functional Proteomics Reveals a Novel Regulatory Role for RhoA in Lipopoly-
saccharide-induced TNF- α Production by the Human Neutrophil
Pulmonary Research Conference, Duke University Medical Center

2004 A Novel Role for Hydroxymethyl-Glutaryl Coenzyme A in Lipopolysaccharide-
Induced Acute Lung Injury
Denver Health Medical Center Critical Care Grand Rounds

2004 Functional Proteomics Reveals a Novel Regulatory Role for RhoA in Lipopoly-
saccharide-induced TNF- α Production by the Human Neutrophil
University of Colorado Proteomics Center

RESEARCH TRAINING

1991-1992 Bristol-Myers Squibb Company: Macromolecular Chemistry Lab
Developed protocol for amino acid analysis of peptides.

1993 Renal Division, Brigham & Women's Hospital, Boston
Utilized differential display-PCR technique to characterize mouse
model for polycystic kidney disease.

1999 Massachusetts General Hospital, Boston
Analyzed magnetic resonance spectroscopy data and physiologic
parameters to study skeletal muscle ventilatory chemoreflex.

2000-2002 National Jewish Medical and Research Center, Denver, CO
Research Fellow

IX. 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 - 6/30/07 \$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

X. Bibliography

Original Scientific Manuscripts

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* 2006 (in press)

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* 2006 (in press)

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

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

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.

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

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

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.

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.

Fessler MB, Malcolm KC, Duncan MW, Worthen GS. New Experimental Approaches to the Signaling of Innate Immunity. *American Journal of Respiratory Cell and Molecular Biology* 2004; 31(Supp):S62-66.

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.

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.

Review Articles

Arcaroli J, **Fessler MB**, Abraham E. The Influence of Genetic Polymorphisms in Sepsis Syndrome. *Shock* 2005; 24(4):300-12

Fessler MB. Proteomics I: An Introduction to 2-Dimensional Gel Electrophoresis. *Gene Express*, August 2003. <http://www.thoracic.org>.

Fessler MB. Proteomics II: An Introduction to Peptide Mass Fingerprinting. *Gene Express*, October 2003. <http://www.thoracic.org>.

Fessler MB, Brown KK. Approach to the Patient with Interstitial Lung Disease. *Best Practice of Medicine*. 2002. <http://www.praxis.md>.

Fessler MB. The Acute Abdominal Compartment Syndrome. <http://www.mdconsult.com>. 2002.

Hess DR, Medoff BD, **Fessler MB**. Pulmonary mechanics and graphics during positive pressure ventilation. *International Anesthesiology Clinics* 1999; 37(3):15-34.

Book Chapters

Fessler MB, Nick JA. Cellular signaling. Textbook of Critical Care, Eds. Fink, Abraham, Vincent, Kochanek, 5th ed., Elsevier Saunders 2005.

Cosgrove GP, **Fessler MB**, Schwarz MI. Lymphoplasmacytic Infiltrations of the Lung. Interstitial Lung Disease. 4th Ed. Eds. Shwarz MI and King TE. B.C. Decker Inc., Hamilton-London.

Fessler MB, Welsh C. Mechanical Ventilation: Invasive and Noninvasive. Lange Publishing, 2003.

Case Reports

Friedlander AL and **Fessler MB**. A 70-year-old man with migratory pulmonary infiltrates. *Chest* 2006;130(4):1269-74

Fessler MB, Cool CD, Miller Y, Schwarz MI, Brown KK. Idiopathic Diffuse Hyperplasia of Pulmonary Neuroendocrine Cells in a Patient with Acromegaly. *Respirology* 2004; 9(2):274-7.

Fessler MB, Lepore JJ, Thompson BT, Semigran MJ. Right-to-Left Shunting Through a Patent Foramen Ovale in Right Ventricular Infarction: Improvement of Hypoxemia and Hemodynamics with Inhaled Nitric Oxide. *Journal of Clinical Anesthesia* 2003; 15(5):371-4.

Miscellaneous

Morimoto K, Janssen WW, **Fessler MB**, McPhillips KA, Borges VM, Xiao YQ, Kench JA, Henson PM, Vandivier RW. Statins Enhance Clearance of Apoptotic Cells Through Modulation of Rho GTPases. *Proceedings of the American Thoracic Society* 2006; 3(6):516-7

Fessler MB, O'Brien JM, Douglas IS. Laboratory Predictors of Relative Adrenal Insufficiency in Septic Shock. *Critical Care Medicine* 2003; 31(8):2251-2.

Fessler MB, Duncan MW, Worthen GS. A Proteomic Analysis of Lipopolysaccharide Stimulation of the Human Neutrophil. *Chest* 2002; 121(3 Suppl):75S-76S.

Selected Abstracts

Fessler MB, Malcolm KC, Arndt PG, Nick JA, Worthen GS. A Novel Role for Rho GTPases in Differential Regulation of Lipopolysaccharide-Induced Cytokines in the Human Neutrophil. *American Journal of Respiratory and Critical Care Medicine* 2005 (in press).

Fessler MB, Young SK, Arndt PG, Jeyaseelan S, Palic MR, Walker T, Lieber JG, Nick JA, Worthen GS. A Role for Hydroxymethyl-Glutaryl Coenzyme A Reductase in Lipopolysaccharide-Induced Acute Lung Injury. *American Journal of Respiratory and Critical Care Medicine* 2004 (in press).

Avdi NA, Malcolm KC, **Fessler MB**, Nick JA, Worthen GS. p38 MAPK Regulates PP2A Activity in Human Neutrophils. *American Journal of Respiratory and Critical Care Medicine* 2003; 167(7):A800

Fessler MB, Avdi NJ, Worthen GS. Cholesterol Content Affects MAP Kinase Activation and Inflammatory Potential of the Neutrophil. *American Journal of Respiratory and Critical Care Medicine* 2002

System DM, **Fessler M**, Packham S, Roberts D, Hrovat M, Shannon D, Kazemi H. Skeletal Muscle Ventilatory Chemoreflex in Congenital Central Hypoventilation Syndrome (CCHS). *American Journal of Respiratory and Critical Care Medicine* 2001;163(5):A267.

Fessler MB, Schwarz MI, King TE Jr, Brown KK. Lymphocytic Interstitial Pneumonitis vs. IPF: Comparison of Outcome, Clinical, and Physiologic Variables. *American Journal of Respiratory and Critical Care Medicine* 2001;163(5):A706.

Roberts DH, **Fessler M**, Packham S, Hrovat MI, Systrom DM. Skeletal Muscle Ventilatory Chemoreflex During Submaximal Exercise by ³¹P-MRS. *American Journal of Respiratory and Critical Care Medicine* 2000;161(3):A430.