

Brett Douglas Noerager, Ph.D.
Professor and Chair
Department of Biology, Chemistry, Mathematics, and Computer Science
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Current Position

Chair, Department of Biology, Chemistry, Mathematics, and Computer Science.
University of Montevallo, June 2021 to present.

Courses taught at University of Montevallo:

BIO 100 Principles of Biology
BIO 101 The Freshman Experience in Biology
BIO 105 Introductory Biology I
BIO 341 Anatomy
BIO 342 Physiology
BIO 450 Immunology
BIO 480 Special Problems in Biology
BIO 490 Senior Seminar in Biology
HNRS 309 What Moves You
UM 101 Becoming – The Freshman Seminar
Undergraduate Research faculty advisor – Summer 2011, Fall 2016, Spring 2017

Education

Doctor of Philosophy, Department of Physiology and Biophysics, University of Alabama at Birmingham, 1996-2002.

Bachelor of Science, Animal Physiology and Neuroscience (Minor: History), University of California at San Diego, 1989-1993.

Teaching Experience

Professor of Biology, University of Montevallo, May 2019 to present.

Associate Professor of Biology, University of Montevallo, May 2012 to May 2019.

Assistant Professor of Biology, University of Montevallo, August 2007 to May 2012.

Physiology Co-Instructor, Birmingham-Southern College, February 2006 to May 2006, February 2007 to May 2007.

Physiology Laboratory Instructor, Birmingham-Southern College, February 2006 to May 2006.

Organismal Biology Laboratory Instructor, Birmingham-Southern College, September 2006 to December 2006, September 2005 to December 2005.

Human Physiology Laboratory Instructor, University of Alabama at Birmingham, January 2005 to August 2005, January 2004 to August 2004.

Population and Ecosystem Biology Laboratory Instructor, Birmingham-Southern College, February 2005 to May 2005.

Mammalian Physiology Laboratory Instructor, University of Alabama at Birmingham, June 2004 to August 2004.

Service

Human and Animal Subjects Research Committee, 2018 to present.

Health Professions Advisory Committee Chair, 2011 to present.

Plunge coordinator, 2011 to present.

UM Pre-Health Professionals Society faculty advisor, Fall 2012 to present.

Biology Club faculty advisor, August 2007 to present.

Beta Beta Beta National Biological Honor Society faculty advisor, August 2007 to present.

Faculty Senate, Fall 2009 to August 2015; August 2018 to August 2021.

University Operations Subcommittee of the Technology Advisory Committee, October 2018 to 2020.

Golden Key International Honour Society faculty advisor, 2011 to 2019.

Teacher Education Committee member, Fall 2010 to 2019.

Run for Research race director, 2011 to 2018.

UM Undergraduate Research Day poster judge, 2014, 2015, 2016, 2018.

Academic Policies sub-committee member of Faculty Senate, Fall 2012 to August 2015.

General Education Review Committee member, Fall 2012 to Spring 2014.

Montevallo Connection, Faculty-to-Faculty Project, Fall 2010 to 2013.

Montevallo Connection, Vertical Teaming Initiative, Fall 2011 to 2013.

Run for Research committee member, April 2008 to 2011.

Becoming 101 Implementation Committee, Fall 2008 to Spring 2009.

Research Experience

Postdoctoral Fellow, Department of Physiology and Biophysics, University of Alabama at Birmingham, August 2002 to July 2007.

Graduate Research Assistant, Department of Physiology and Biophysics, University of Alabama at Birmingham, August 1996 to July 2002.

Research Technician, Division of Neuroscience, Baylor College of Medicine, January 1994 to June 1996.

Awards and Honors:

The National Society of Leadership and Success, Honorary Member 2018.

Linda and Todd Strange Endowed Professor, 2015-2018.

University of Montevallo University Scholar, 2012.

Sole Survivor of the 2012 Life Raft Debate.

University of Montevallo Pre-tenured Faculty Summer Research Stipend. \$5000 award to fund research during Summer 2011.

Golden Key International Honour Society, Honorary Member, Spring 2010.

National Institutes of Health ARRA Administrative Supplements Providing Summer Research Experiences for Students and Science Educators grant. \$24,000 funding for Summer 2009 and 2010.

National Heart, Lung, and Blood Institute (NHLBI) Basic Mechanisms in Lung Disease Research Training Grant postdoctoral research training position. July 2005 to June 2006.

National Institutes of General Medical Sciences (NIGMS) Trauma and Inflammation Research Training Grant postdoctoral research training position. July 2003 to June 2005.

University of Alabama at Birmingham Preparing Future Faculty teaching internship. August 2003 to August 2004.

Graduate Research Assistantship, Department of Physiology and Biophysics, University of Alabama at Birmingham, 1996 to 2002.

Invited Talks

University of Montevallo University Scholar Lecture, November 29, 2012.

University of Montevallo Faculty Research Symposium, March 7, 2012

A+ College Ready AP Biology Immunology workshop, Tuscaloosa, AL, June 2011

Golden Key International Honour Society Spring 2010 Induction Ceremony.

2009 Career Development Workshop hosted by the University of Alabama at Birmingham Industry Roundtable, April 18, 2009.

Publications

Published papers

1. Russell, D.W., Hardison, M., Genschmer, K.R., Szul, T., Bratcher, P.E., Abdul Roda, M., Xu, X., Viera, L., Blalock, J.E., Gaggar, A., and **Noerager, B.D.** 2019. Benzylloxycarbonyl-proline-proline (ZPP): Dual complementary roles for neutrophil inhibition. *Biochemical and Biophysical Research Communications*. 517 (4): 691-6.
2. Genschmer, K.R., Russell, D.W., Szul, T., Bratcher, P.E., **Noerager, B.D.**, Abdul-Roda, M., Xu, X., Viera, L., Abdallah, T.H., King, R.W., McNicholas, C.M., Wells, J.M., Dransfield, M.T., Gaggar, A., and Blalock, J.E. 2019. Activated PMN exosomes: pathogenic entities inducing matrix destruction in the lung. *Cell*. 176 (1): 113-26.
3. **Noerager, B.D.**, Xu X., Davis, V.A., Jones, C.W., Okafor, S., Whitehead, A., Blalock, J.E., and Jackson, P.L. 2015. A potential role for acrolein in neutrophil-mediated chronic inflammation. *Inflammation*. 38 (6): 2279-87.
4. Jackson, P.L., **Noerager, B.D.**, Jablonsky, M., Hardison, M.T., Cox, B.D., Patterson, J.C., Dhanapal, B., Blalock, J.E., and Muccio, D.D. 2011. A CXCL8 receptor antagonist based on the structure of N-Acetyl-Proline-Glycine-Proline. *European Journal of Pharmacology*. 668 (3): 435-42.

5. Snelgrove, R.J., Jackson, P.L., Hardison, M.T., **Noerager, B.D.**, Kinloch, A., Gaggar, A., Shastry, S., Rowe, S.M., Shim, Y.M., Hussell, T., Blalock, J.E. 2010. A critical role for LTA₄H in limiting chronic pulmonary neutrophilic inflammation. *Science*. 330 (6000): 90-4.
6. O'Reilly, P., Jackson, P.L., **Noerager, B.**, Parker, S., Dransfield, M., Gaggar, A., and Blalock, J.E. 2009. N- α -PGP and PGP, potential biomarkers and therapeutic targets for COPD. *Respiratory Research*. 10: 38-45.
7. Rowe, S.M., Jackson, P.L., Liu, G., Hardison, M., Livraghi, A., Solomon, G.M., McQuaid, D.B., **Noerager, B.D.**, Gaggar, A., Clancy, J.P., O'Neal, W., Sorscher, E.J., Abraham, A., Blalock, J.E. 2008. Potential role of high mobility group box 1 in cystic fibrosis airway disease. *American Journal of Respiratory and Critical Care Medicine*. 178: 822-31.
8. Gaggar, A., Jackson, P.L., **Noerager, B.D.**, O'Reilly, P.J., McQuaid, D.B., Rowe, S.M., Clancy, J.P., Blalock, J.E. 2008. A novel proteolytic cascade generates an extracellular matrix-derived chemoattractant in chronic neutrophilic inflammation. *The Journal of Immunology*. 180: 5662-9.
9. Galin, F.S., Chrisman, C.L., Cook, J.R., Xu, L., Jackson, P.L., **Noerager, B.D.**, Weathington, N.M., Blalock, J.E. 2007. Possible therapeutic vaccines for canine myasthenia gravis: Implications for the human disease and associated fatigue. *Brain, Behavior, and Immunity*. 21 (3): 323-31.
10. Weathington, N.M., van Houwelingen, A.H., **Noerager, B.D.**, Jackson, P.L., Kranevald, A.D., Downs, J.T., Galin, F.S., Folkerts, G., Nijkamp, F.P., Blalock, J.E. 2006. A novel peptide CXCR ligand derived from extracellular matrix degradation during airway inflammation. *Nature Medicine*. 12 (3): 317-23.
11. **Noerager, B.D.**, Inuzuka, T., Kira, J., Blalock, J.E., Whitaker, J.N., Galin, F.S. 2001. An IgM anti-MBP Ab in a case of Waldenstrom's macroglobulinemia with polyneuropathy expressing an idiotype reactive with an MBP epitope immunodominant in MS and EAE. *Journal of Neuroimmunology*. 113 (1): 163-9.
12. Maunsell, J.H.R., Ghose, G.M., Assad, J.A., McAdams, C.J., Boudreau, C.E., **Noerager, B.D.** 1999. Visual response latencies of magnocellular and parvocellular LGN neurons in macaque monkeys. *Visual Neuroscience*. 16 (1): 1-14.
13. Fenster, C.P., Rains, M.F., **Noerager, B.**, Quick, M.W., Lester, R.A. 1997. Influence of subunit composition on desensitization of neuronal acetylcholine receptors at low concentrations of nicotine. *Journal of Neuroscience*. 17 (15): 5747-59.

Manuscripts in preparation

1. Jackson, P.L. Sullivan, D. **Noerager, B.D.**, Wells, J.M., and Blalock, J.E. Power of electronic cigarette devices affects productivity of inflammatory chemicals. In preparation for *Journal of Biological Chemistry*.

Patents

1. Blalock, J.E., Djekic, U.V., Jackson, P.L., Gaggar, A., **Noerager, B.**, O'Reilly, P.J. Prolyl endopeptidase inhibitors for reducing or preventing neutrophilic inflammation. 2009.

Dissertation

1. **Noerager, B.D.** 2002. Cross-reactive idiotypes: Vaccine targets for autoimmune diseases.

Abstracts and Presentations

1. Russell, D., Genschmer, K.R., Szul, T., **Noerager, B.**, Xu, X., Viera, L., Abdalla, T., McNicholas, C.M., Well, J.M., Dransfield, M.T., Gaggar, A., and Blalock, J.E. Neutrophil-derived exosomes purified from COPD patient bronchoalveolar fluid cause a COPD like phenotype in a mouse model via a neutrophil elastase dependent mechanism. Presented at the American Thoracic Society International Scientific Conference, San Diego, CA. May 2018.

2. Henderson, J., Rivers, N., and **Noerager, B.D.** Modeling Alzheimer's disease. Presented at University of Montevallo Undergraduate Research Day, March 22, 2017. Awarded first place in the poster presentation category.

3. Sullivan, D.I., **Noerager, B.D.**, Wells, J.M., Blalock, J.E., Bailey, W.C., and Jackson, P.L. Mechanical and Chemical Components of Electronic Cigarettes Affect Combustion Product Formation and Biological Pathways of Inflammation. Presented at the American Thoracic Society International Scientific Conference, Denver, Colorado. May 2015.

4. Davis, V.A. and **Noerager, B.D.** 2012. Acrolein exposure influences neutrophil function. Presented at the Council of Public Liberal Arts Colleges (COPLAC) regional conference at Georgia College and State University, April 2012.

5. **Noerager, B.D.**, Xu, X., Davis, V.A., Jones, C.W., Okafor, S., Whitehead, A., Blalock, J.E., and Jackson, P.L. 2011. Acrolein treatment exacerbates neutrophil-mediated collagen breakdown and PGP generation. Presented at the American Thoracic Society International Scientific Research Conference, San Francisco, California. May 2012.

6. **Noerager, B.D.**, Xu, X., Okafor, S., Blalock, J.E., and Jackson, P.L. 2010. Acrolein treatment of human neutrophils affects enzyme release and activation. Presented at the American Thoracic Society International Scientific Conference, Denver, Colorado. May 2011
7. **Noerager, B.**, Jackson, P.L., O'Reilly, P., Snelgrove, R., and Blalock, J.E. 2009. Treatment of clinical samples with aminopeptidase inhibitors increases the signal strength and preserves the integrity of a potential COPD biomarker. Presented at The American Thoracic Society International Scientific Conference, New Orleans, Louisiana. May 2010.
8. Snelgrove, R.J., Jackson, P.L., **Noerager, B.D.**, Dkekic, U.V., Gaggar, A., and Blalock, J.E. A novel tripeptide aminopeptidase degrades the neutrophil chemoattractant PGP and dictates the amplitude of neutrophilic lung inflammation. Presented at The American Thoracic Society International Scientific Conference. San Diego, California. May 2009.
9. Gaggar, A., Jackson, P.L., **Noerager, B.D.**, O'Reilly, P.J., Clancy, J.P., Blalock, J.E. A novel mechanism of neutrophil recruitment involving proteolytic cleavage of collagen. Presented at The American Thoracic Society International Scientific Conference. Toronto, Ontario, Canada. May 2008.
10. Gaggar, A., Jackson, P., **Noerager, B.**, O'Reilly, P.J., Clancy, J.P., and Blalock, J.E. Cystic fibrosis sputum generates chemotactic collagen fragments. Presented at The American Thoracic Society International Scientific Conference. San Francisco, California. June 2007.
11. Weathington, N.M., **Noerager, B.D.**, Jackson, P.L., van Houwelingen, A., Nijkamp, F., and Blalock, J.E. PGP, a peptide PMN chemoattractant, is released during airway inflammation and causes pulmonary neutrophilia and disease. Presented at The American Thoracic Society International Scientific Conference. San Diego, California. May 2006.
12. Weathington, N.M., **Noerager, B.D.**, Jackson, P.L., van Houwelingen, A., Folkerts, G., Nijkamp, F., and Blalock, J.E. Characterization of a novel CXC ligand derived from matrix degradation and active on neutrophils. Presented at The Keystone Symposium on Chemokines and Chemokine Receptors. Snowbird, Utah. January 2006.
13. **Noerager, B.D.** 2002. A monoclonal antibody vaccine for experimental allergic encephalomyelitis: therapeutic implications for multiple sclerosis. Presented at the Graduate Student Research Day, University of Alabama at Birmingham.
14. **Noerager, B.D.**, Galin, F.S. Idiotypic Relatedness Between Human V_L VIII and Murine V_LX: Implications for EAE and MS. The FASEB Journal. 16(5) Part II: A1044. Poster presented at Experimental Biology '02. New Orleans, LA. April 2002.

15. **Noerager, B.D.**, Inuzuka, T., Kira, J., Blalock, J.E., Whitaker, J.N., Galin, F.S. 1999. An idiotypic relatedness between murine V_Lx and human myelin basic protein specific antibodies in primary macroglobulinemia. The FASEB Journal. 13 (4) Part I: A333. Poster presented at Experimental Biology '99. Washington, D.C. April 1999.

16. **Noerager, B.D.** 1999. Identification of a potential mechanism for neuronal damage in primary macroglobulinemia involving myelin basic protein specific antibodies with a V_Lx idiootype. Presented at the Graduate Student Research Day, University of Alabama at Birmingham.

Community Service

Adult Troop Committee Chair, Scouts BSA Troop 79, All Saints' Episcopal Church, Homewood, AL. October 2018 – Present.

Assistant Scoutmaster, Scouts BSA Troop 79, All Saints' Episcopal Church, Homewood, AL. 2016 – Present.

Assistant Den Leader, Cub Scout Pack 279, All Saints' Episcopal Church, Homewood, AL. 2011- 2015.

Leadership Training

Wood Badge S9-120, Scouts BSA Greater Alabama Council, 2020.

Introduction to Outdoor Leadership Skills (IOLS), Scouts BSA Vulcan District, Greater Alabama Council, February 2020.

Scoutmaster Position-specific Training, Scouts BSA, January 2020.