

CURRICULUM VITAE

William Reid Bolus, PhD

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EDUCATION:

Institution	Degree	Year	Major
University of Tennessee, Chattanooga	BS	2011	Biology; minor in Chemistry
Vanderbilt University	PhD	2017	Molecular Physiology and Biophysics

PROFESSIONAL EXPERIENCE:

Company	Start	End	Position
Vanderbilt University	Nov. 2017	Oct. 2018	Postdoctoral Scholar

HONORS & AWARDS:

- 2018 Requested to write a brief commentary on an immunometabolism article in the current issue of the journal *BioEssays*
- 2017 Research selected for oral presentation at 2017 AAI Immunology conference
- 2016 Placed 4th in Research Poster Competition at FASEB Meeting: Immunological Aspects of Obesity
- 2016 Placed 2nd in Management & Business Principles for Scientists' Project Competition
- 2015 First author manuscript selected for editorial in the *Journal of Leukocyte Biology* October issue
- 2015 First author manuscript featured as cover art for the *Journal of Leukocyte Biology* October issue
- 2015 Placed 3rd in Research Poster Competition at Auburn Diabetes Research Day
- 2014 Placed 3rd in Research Poster Competition at Auburn Diabetes Research Day
- 2011 Outstanding Research Award, Department of Biological and Environmental Sciences, UTC
- 2010 - 2011 Beta Beta Beta: National Biology Honor Society
- 2007 - 2011 Dean's List, UTC (8 consecutive semesters)
- 2007 - 2011 University Honors Program, UTC
- 2007 - 2011 Recipient, Full-tuition scholarship by Brock Scholars University Honors Program, UTC
- 2007 - 2011 Recipient, Naomi H. Wood Memorial Scholarship
- 2007 - 2011 Recipient, Provost's Scholarship

RESEARCH EXPERIENCE:

- 2017-2018 Postdoctoral scholar: Primarily studying the role of adipose eosinophils in dietary weight loss and allergic reactions. (Mentor: Dr. Alyssa Hasty)
- 2012 -2017 Doctoral Dissertation Research: *The multifaceted role of eosinophils in adipose tissue: from metabolism to allergy*. (Mentor: Dr. Alyssa Hasty) Completed 10/16/2017.
- 2011 - 2012 Five independent lab rotations encompassing various aspects of diabetes and obesity research: gene transcription, intracellular signaling, cellular differentiation, tissue development, and inflammation.
- 2010 - 2011 Undergraduate Departmental Honors Thesis: "The Function of Peripheral Myelin Protein 22 (PMP22) in the Context of Tissue Development and Cellular Differentiation"
 - Results presented in bound thesis & 2011 Association of Southeastern Biologists meeting
- 2007 Internship at Microarray Inc.: Biotechnology Company; microarrays.com

TEACHING, LEADERSHIP, & PUBLIC OUTREACH:

- 2018 Volunteer for The Nashville Food Project, Spent the day harvesting, planting, and tending gardens that provide organically grown food for a healthy diet to the local community
- 2018 Reviewer, manuscript for publication for *BioEssays*
- 2018 Reviewer, manuscript for publication for *Scientific Reports (Nature)*
- 2017 STEM high school outreach: introduced students to potential careers paths in scientific research; provided display of research materials, discussed research projects & PhD education process.
- 2016 Reviewer, manuscript for publication for *eLife*
- 2016 Reviewer, manuscript for publication for *Cell Reports (Cell)*
- 2016 Reviewer, manuscript for publication for *Diabetes*

CURRICULUM VITAE (continued)

2016	American Heart Association (AHA) Donor Appreciation Banquet: discussed scientific research
2016	with the lay public, including AHA fundraisers and donors
2015	Reviewer, manuscript for publication for <i>Journal of Leukocyte Biology</i>
2015	American Heart Association (AHA) Fundraiser Appreciation Event: discussed scientific research with the district's top AHA fundraisers
2014 - 2016	Mentored undergraduate student in basic lab practices, techniques, data analysis, and responsible research and conduct
2013 - 2014	Vice President, Molecular Physiology and Biophysics Graduate Student Association
2012 - 2013	Multimedia Developer, Molecular Physiology and Biophysics Graduate Student Association
2009 - 2010	Peer tutor for Biology, Chemistry, and Math courses, for Student Support Services at UTC

DOCTORAL TRAINING COURSES:

Semester	Course Title	Semester	Course Title
2016S	Management & Business Principles for Scientists	2012U	Assessment of Metabolism <i>in vivo</i>
2015U	Biostatistics	2012U	Responsible Conduct of Research
2014S	Physiology Tech & Prep	2012S	Bioregulation II
2013F	Physiology Tech & Prep	2012S	Regulation of Gene Transcription
2013S	Tutorials In Physiology II	2012S	Mol. Endocrin. I: Obesity & Diabetes
2012F	Human Physiology & Molecular Medicine	2011F	Bioregulation I
2012F	Molecular Endocrinology II	2011F	FOCUS: critical literature evaluation
2012F	Tutorials In Physiology I		

APPLICATIONS FOR PRE-/POSTDOCTORAL FUNDING:

Year	Source	Pre/Post	Outcome
2018	Vanderbilt Institute for Infection, Immunology & Inflammation (VI4) Mini-Sabbatical	Post	Awarded
2015-2017	American Heart Association Predoctoral Fellowship Greater Southeast Affiliate	Pre	Awarded
2015-2017	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (Parent F31)	Pre	Score of 20, unfunded
2012-2014	Multidisciplinary Training in Molecular Endocrinology (METP) NIH/NIDDK – T32DK007563	Pre	Awarded

TRAVEL AWARDS TO PRESENT SCIENTIFIC RESEARCH:

Year	Source
2017	AAI Immunology Travel Grant
2017	Engineering Immunity and Vanderbilt Center for Immunobiology Travel Grant
2016	Vanderbilt Graduate Student Travel Grant
2015	International Eosinophil Society Symposium Travel Grant
2015	Vanderbilt Graduate Student Travel Grant
2014	Molecular Physiology and Biophysics Travel Grant
2014	Vanderbilt Graduate Student Travel Grant

CURRICULUM VITAE (continued)

PUBLICATIONS:

1. **W.R. Bolus**, M.A. Cottam, M.J. Hubler, A.J. Kennedy, R.S. Pebbles, Jr., A.H. Hasty. (*in preparation*) White adipose tissue mounts an IL-33 dependent allergic response after repetitive exposure to a foreign substance without requirement of adjuvant.
2. **W.R. Bolus**, A.J. Kennedy, A.H. Hasty. (*in submission*). Obesity-induced reduction of adipose eosinophils is reversed with low-calorie dietary intervention.
3. **W.R. Bolus**, (2018) Diversity of Adipose Tissue Immune Cells: Are All Eosinophils Created Equal? *BioEssays*
4. **W.R. Bolus**, A.H. Hasty. (2018) Contributions of Innate Type 2 Inflammation to Adipose Function. *Journal of Lipid Research*. Requested piece for a thematic review series on "Adipose biology".
5. **W.R. Bolus**, K.R. Peterson, M.J. Hubler, A.J. Kennedy, M.L. Gruen, and A.H. Hasty. (2018) Elevating adipose eosinophils in obese mice to physiologically normal levels does not rescue metabolic impairments. *Molecular Metabolism*.
6. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, and A.H. Hasty. (2015) CCR2 deficiency leads to increased eosinophils, alternative macrophage activation, and type-2 cytokine expression in adipose tissue. *Journal of Leukocyte Biology*.
7. K.G. Riley, R.C. Pasek, M.F. Maulis, J.C. Dunn, **W.R. Bolus**, P.L. Kendall, A.H. Hasty, M.A. Gannon. (2015) Macrophages are essential for ctgf-mediated adult β -cell proliferation after injury. *Molecular Metabolism*.
8. A.A. Hill, **W.R. Bolus** and A.H. Hasty. (2014) A Decade of Progress in Adipose Tissue Macrophage Biology. *Immunological Reviews*.

ABSTRACTS/PRESENTATIONS:

1. **W.R. Bolus**, A.H. Hasty. (June 2018) A potential role for adipose tissue eosinophils in allergy and asthma. Southeastern Immunology Symposium, Abstract #A18, Birmingham, AL.
2. **W.R. Bolus**, A.H. Hasty. (May 2018) A potential role for adipose tissue eosinophils in allergy and asthma. AAI Immunology, Abstract #44.28, Austin, TX.
3. **W.R. Bolus**, K.R. Peterson, M.J. Hubler, A.J. Kennedy, M.L. Gruen, and A.H. Hasty. (June 2017) Restoring obese adipose eosinophils to lean adipose levels via IL5 administration is not sufficient to regain metabolic fitness. Southeastern Immunology Symposium, Abstract #106, Nashville, TN.
4. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, M.J. Hubler, and A.H. Hasty. (June 2017) The role of eosinophils in adipose tissue inflammation and metabolic function. Engineering Immunity Symposium, Nashville, TN.
5. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, M.J. Hubler, and A.H. Hasty. (May 2017) The role of eosinophils in adipose tissue inflammation and metabolic function. AAI Immunology, Washington, DC.
6. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, M.J. Hubler, and A.H. Hasty. (April 2017) The role of eosinophils in adipose tissue inflammation and metabolic function. Vanderbilt Symposium on Infection and Immunology, Abstract #17, Nashville, TN.

CURRICULUM VITAE (continued)

7. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, M.J. Hubler, and A.H. Hasty. (August 2016) The contribution of eosinophils to adipose tissue inflammation and metabolic fitness among various mouse models. FASEB Conference: Immunological Aspects of Obesity, Abstract #2, Big Sky, MN.
8. **W.R. Bolus**, L. Hogdal, A, Lokits, and K, Taylor. (April 2016) Development and Application of an Acquisition Decision Support Tool. Management & Business Principles for Scientists Project Competition, Nashville, TN.
9. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, and A.H. Hasty. (June 2015) Adipose tissue of CCR2 deficient mice display increased eosinophil accumulation, type 2 cytokine expression, and alternative macrophage polarization. International Eosinophil Society 9th Biennial Symposium, Abstract #13, Chicago, IL.
10. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, and A.H. Hasty. (February 2015) CCR2 deficiency leads to increased eosinophils, alternative macrophage activation, and type-2 cytokine expression in adipose tissue. Boshell Diabetes and Metabolic Diseases Research Day, Abstract #P06, Auburn, AL.
11. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, and A.H. Hasty. (November 2014) CCR2 deficiency leads to increased eosinophil number, alternative macrophage activation, and type-2 cytokine expression in white adipose tissue. Vanderbilt Diabetes Day: Molecules to People, Abstract #29, Nashville, TN.
12. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, and A.H. Hasty. (June 2014) CCR2 Deficiency Leads to Eosinophilia, Alternative Macrophage Activation, and Th2 Polarization in Adipose Tissue. American Diabetes Association 74th Scientific Sessions, Abstract #P264, San Francisco, CA.
13. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, and A.H. Hasty. (February 2014) CCR2 Deficiency Leads to Eosinophilia, Alternative Macrophage Activation, and Th2 Polarization in Adipose Tissue. Boshell Diabetes and Metabolic Diseases Research Day, Abstract #P03, Auburn, AL.
14. **W.R. Bolus**, D.A. Gutierrez, A.J. Kennedy, E.K. Anderson, and A.H. Hasty. (November 2013) CCR2 Deficiency Leads to Eosinophilia, Alternative Macrophage Activation, and Th2 Polarization in Adipose Tissue. Vanderbilt Diabetes Day: Molecules to People, Abstract #53, Nashville, TN.

REFERENCES:

1. Dr. Alyssa Hasty, Alyssa.Hasty@Vanderbilt.Edu (PhD Mentor)
2. Dr. Owen McGuinness, Owen.McGuinness@Vanderbilt.Edu
3. Dr. David Wasserman David.Wasserman@Vanderbilt.Edu