

Brian J. Bennett, PhD

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Education

Doctor of Philosophy, Nutritional Sciences (March 2006)	University of Washington
Master of Science, Nutritional Sciences (September 1997)	University of New Hampshire
Bachelor of Science, Exercise Science (May 1995)	Ithaca College

Research Experience

Assistant Professor, Department of Genetics, University of North Carolina, Chapel Hill and
Member Nutrition Research Institute, Kannapolis, NC (December 2011-Present)

Postdoctoral Fellow, University of California Los Angeles (April 2006-December 2011)
Aldons J. Lulis, Advisor

Doctoral Student, University of Washington (October 2001- April 2006)
Michael E. Rosenfeld, Advisor

Master's Student, University of New Hampshire (September 1995-August 1997)
Anthony Tagliaferro, Advisor

Professional Experience:

Business Systems Analyst	07/98 to 08/01	Pfizer Animal Health
Intern Rowing Coach	09/97 to 06/98	Cornell University
Freshman Rowing Coach	09/96 to 05/97	University of New Hampshire

Academic and Professional Honors:

- Early Career Investigator Travel Stipend Award, Kern Aspen Lipid Conference, August 2011
- George J. Popjak Fellowship in Research Related to Atherosclerosis, UCLA School of Medicine, December 2010
- Early Career Investigator Travel Stipend Award, Kern Aspen Lipid Conference, August 2009
- Invited Talk: "Systems Genetic Approaches for Identification of Atherosclerosis Susceptibility Genes" Gordon Research Conference on Atherosclerosis, June 2009
- Third Place, Department of Medicine Research Day Poster Competition, UCLA School of Medicine, October 2008
- Scholarship to attend Annual Short Course on Systems Genetics, The Jackson Laboratory, Bar Harbor Maine, September 2008
- Scholarship to attend 48th Annual Short Course on Medical and Experimental Mammalian Genetics, The Jackson Laboratory, Bar Harbor Maine, July 2007
- Certificate in Public Health Genetics, University of Washington 2004
- Edith Molton Scholarship, University of Washington, 2004
- Student Representative for the American Association of Nutrition Sciences' Graduate Nutrition Education Committee, February 2003
- Leadership Award, Pfizer Animal Health January 1999

Publications:

Research papers:

Brian J. Bennett, PhD

1. Ghazalpour A*, **Bennett BJ***, Petyuk VA, Orozco L, Farber CR, et al. Comparative Analysis of Proteome and Transcriptome Variation in Mouse. *PLoS Genet.* 2011 Jun;7(6):e1001393. Epub 2011 Jun 9.
2. Farber CR, **Bennett BJ**, Orozco L, Zou W, et al Convergent mouse and human genome-wide association and systems genetics identify *Asx12* as regulator of osteoclastogenesis and bone mass. *PLoS Genet.* 2011 Apr; 7(4):e1002038. Epub 2011 Apr 7.
<http://www.plosgenetics.org/article/info%3Adoi%2F10.1371%2Fjournal.pgen.1002038>
3. Wang Z, Klipfell E, **Bennett BJ**, Koeth R, Levison B, DuGar B, Smith JD, Allayee H, Tang WH, DiDonato JA, Lusis AJ, Hazen SL, Gut flora dependent metabolism of dietary phosphatidylcholine contributes to cardiovascular disease. *Nature* 2011 472, 57-63.
4. Park CC, Gale GD, deJong S, Ghazalpour A, **Bennett BJ**, et al. Gene networks associated with conditional fear in mice identified using a systems genetics approach. *BMC Syst Biol.* 2011 Mar 16;5:43. <http://www.biomedcentral.com/1752-0509/5/43>
5. Yao Y*, **Bennett BJ***, Wang X, Rosenfeld ME, Giachelli C, Lusis AJ, Boström KI, Inhibition of Bone Morphogenetic Proteins Protects against Atherosclerosis and Vascular Calcification. *Circ Research* 2010 107:485-494. <http://circres.ahajournals.org/cgi/reprint/CIRCRESAHA.110.219071v1>
6. **Bennett BJ**, Farber CR, Orozco L, Kang H, et al. A High Resolution Association Mapping Panel for the Dissection of Complex Traits in Mice *Genome Res.* 2010 Feb;20(2):281-90.
<http://genome.cshlp.org/content/20/2/281.full.pdf+html>
7. **Bennett BJ**, Wang SS, Wang XP, Wu X, Lusis AJ. Genetic Regulation of Atherosclerotic Plaque Size and Morphology in the Innominate Artery of Hyperlipidemic Mice. *Arterioscler Thromb Vasc Biol.* 2009; 29:348-355. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2704985/pdf/nihms117928.pdf>
8. Averill MM*, **Bennett BJ***, Rattazzi M, Rodmyre RM, Kirk EA, Schwartz SM, Rosenfeld ME. Neither antioxidants nor genistein inhibit the progression of established atherosclerotic lesions in older apoE deficient mice. *Atherosclerosis.* 2009; 203(1): 82-88.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2745123/pdf/nihms102758.pdf>
9. Araujo JA, Barajas B, Kleinman M, Wang X, **Bennett BJ**, Gong KW, Navab M, Harkema J, Sioutas C, Lusis AJ, Nel AE. Ambient particulate pollutants in the ultrafine range promote early atherosclerosis and systemic oxidative stress. *Circulation Research.* 2008; 102(5):589-596.
<http://circres.ahajournals.org/cgi/reprint/CIRCRESAHA.107.164970v1>
10. Shaposhnik Z, Wang X, Weinstein M, **Bennett BJ**, Lusis AJ. Granulocyte macrophage colony-stimulating factor regulates dendritic cell content of atherosclerotic lesions. *Arterioscler Thromb Vasc Biol.* 2007;27(3):621-627. <http://atvb.ahajournals.org/cgi/content/full/27/3/621>
11. **Bennett BJ**, Scatena M, Kirk EA, Rattazzi M, Varon RM, Averill M, Schwartz SM, Giachelli CM, Rosenfeld ME. Osteoprotegerin inactivation accelerates advanced atherosclerotic lesion progression and calcification in older ApoE^{-/-} mice. *Arterioscler Thromb Vasc Biol.* 2006; 26(9):2117-2124.
<http://atvb.ahajournals.org/cgi/reprint/01.ATV.0000236428.91125.e6v1>
12. Rattazzi M, **Bennett BJ***, Bea F, Ricks JL, Speer MY, Schwartz SM, Giachelli CM, and Rosenfeld ME. Calcification of Advanced Atherosclerotic Lesions in the Innominate Arteries of ApoE

Brian J. Bennett, PhD

Deficient Mice: Potential Role of Osteogenic Cells. *Arterioscler Thromb Vasc Biol.* 2005 Jul; 25(7):1420-5. Epub 2005 Apr 21. <http://atvb.ahajournals.org/cgi/reprint/25/7/1420>

13. Bea F, Blessing E, **Bennett BJ**, Kuo CC, Campbell LA, Kreuzer J, Rosenfeld ME. Chronic inhibition of cyclooxygenase-2 does not alter plaque composition in a mouse model of advanced unstable atherosclerosis. *Cardiovasc Res.* 2003 Oct 15;60(1):198-204. <http://www.escardiocontent.org/periodicals/carres/article/PIIS0008636303004644/abstract>
14. Bea F, Blessing E, **Bennett B**, Levitz M, Wallace EP, Rosenfeld ME. Simvastatin promotes atherosclerotic plaque stability in apoE-deficient mice independently of lipid lowering *Arterioscler Thromb Vasc Biol* 2002 Nov 1; 22(11):1832-7. <http://atvb.ahajournals.org/cgi/reprint/22/11/1832>

Review Papers:

1. Rosenfeld ME, Averill MM, **Bennett BJ**, Schwartz SM. Progression and disruption of advanced atherosclerotic plaques in murine models. *Curr Drug Targets.* 2008;9(3):210-216.
2. **Bennett BJ**, Romanoski CE, Lusis AJ. Network-centered view of coronary artery disease. *Expert Rev Cardiovasc Ther.* 2007; 5(6): 1095-1103.

Abstracts:

1. Common Variations of the FMO3 gene contribute to atherosclerosis in female mice by influencing TMAO levels **Bennett BJ**, Vallum T, Wang Z, Orozco L, Ghazalpour A, Emrah Kostem2,5, , Eskin E, Hazen S, Lusis AJ. Gordon Conference. Quantitative Genetics & Genomics From Genome to Phenotype. February 2011.
2. Systems genetics identifies *Bicc1* as a regulator of bone mineral density. Farber C, Lira A, Hsu Y, **Bennett BJ**, Orozco L, Hong G, van Nas A, Kang H, Eskin E, Bryda E, Karasik D, Kiel D, Drake T, Rosen CJ, Lusis AJ. American Society of Bone and Mineral Research meeting October 2010
3. High Resolution Systems Genetics Studies of Lipoproteins Levels and Functional Properties in Mice. **Bennett BJ**, Castellani LW, Shih D, Orozco L, Farber CR, Lusis AJ. Kern Aspen Lipid Conference, Aspen, CO August, 2009
4. Genetic Networks Induced by LPS and oxPAPC in Primary Mouse Macrophages **Bennett BJ**, Orozco L, Lusis AJ. LIPID MAPS Meeting: Lipidomics Impact on Cell Biology, Structural Biochemistry and Immunopathology. San Diego, CA May 2009
5. A Novel Systems Genetic Resource for Bone Biology. Farber C, **Bennett BJ**, Orozco L, H, Kang, H, Kostem E, Ghazalpour A, Wen P, Farber E, Berberyan A, Suwanwela, J Drake T, Eskin E, Lusis AJ. *J Bone Miner Res* 24 (Suppl 1). 2009. <http://www.asbmr.org/Meetings/AnnualMeeting>
6. High Resolution Genetic Mapping Strategies For Metabolic Disease in Mice: Towards Association Based Studies **Bennett BJ**, Farber CR, Orozco L, Lusis AJ. American Heart Association Scientific Sessions, 2008. *Circulation.* 2008;118:S_566
7. High Resolution Genetic Mapping Strategies For Metabolic Disease in Mice. **Bennett BJ**, Farber CR, Orozco L, Kang H, Kostem E, Eskin E, Lusis AJ. FASEB Summer Research Conference: Molecular Mechanisms Involved in the Nutrient Control of Cellular Function July 2008
8. Identification of Atherosclerosis Susceptibility and Cellular Morphology Loci in the Innominate Artery of Hyperlipidemic Mice **Bennett BJ**, Wang S, Wang X, Lusis AJ. 48th Annual Short Course

Brian J. Bennett, PhD

on Medical and Experimental Mammalian Genetics The Jackson Laboratory, Bar Harbor ME, July 2007

9. Identification of Atherosclerosis Susceptibility Loci in the Innominate Artery of Hyperlipidemic Mice **Bennett BJ**, Wang S, Wang X, Lusic AJ. Gordon Conference on Atherosclerosis, Il Cicco Italy June 2007
10. Dietary Supplementation with Genistein Reduces Aortic Calcium Content but does not Inhibit the Progression of Advanced Atherosclerotic Lesions in older ApoE^{-/-} mice **Bennett BJ**, Varon RM, Averill M, Rattazzi M, Kirk EA, Giachelli C, Rosenfeld ME. Abstracts of the 7th Annual Conference on Arteriosclerosis, Thrombosis, and Vascular Biology. Arterioscler Thromb Vasc Biol. <http://atvb.ahajournals.org/cgi/reprint/26/5/e53>
11. Inactivation of Matrix Gla Protein Promotes Chondroplastic Conversion and Calcification of Atherosclerotic Lesions in Apolipoprotein E Deficient Mice **Bennett BJ**, Kirk EA, Rattazzi M, Varon RM, Averill M, Giachelli CM, Rosenfeld ME. Abstracts of the 7th Annual Conference on Arteriosclerosis, Thrombosis, and Vascular Biology. Arterioscler Thromb Vasc Biol <http://atvb.ahajournals.org/cgi/reprint/26/5/e53>
12. Resistance of Advanced Atherosclerotic Lesions in Older Apolipoprotein E Deficient Mice to Dietary Antioxidant Treatment. Averill M, Bennett BJ, Varon RM, Rattazzi M, Rosenfeld ME Abstracts of the 7th Annual Conference on Arteriosclerosis, Thrombosis, and Vascular Biology. Arterioscler Thromb Vasc Biol <http://atvb.ahajournals.org/cgi/reprint/26/5/e53>
13. Osteoprotegerin: A Modulator of Vascular and Inflammatory Cell Behavior. Scatena M, **Bennett BJ**, Hyunh D, Rosenfeld ME, Giachelli CM. Abstracts of the 7th Annual Conference on Arteriosclerosis, Thrombosis, and Vascular Biology. Arterioscler Thromb Vasc Biol <http://atvb.ahajournals.org/cgi/reprint/26/5/e53>
14. Lack of Osteoprotegerin Accelerates Progression of Advanced Atherosclerotic Lesions in the Innominate Arteries of Older ApoE^{-/-} Mice **Bennett BJ**, Kirk EA, Rattazzi M, Varon RM, Averill M, Giachelli CM, Rosenfeld ME. Keystone Conference on The Cellular Biology of Atherosclerosis (A7), Keystone Colorado January 2005
15. Osteopontin as a Survival Factor for Macrophages Scatena M, Bergen J, Yang H, **Bennett BJ**, Rosenfeld ME, and Giachelli CM Keystone Conference on The Cellular Biology of Atherosclerosis (A7), Keystone Colorado January 2005
16. Chondrocyte-Like Cells and Calcification of Advanced Atherosclerotic Lesions in the Innominate Arteries of Older ApoE-Null Mice **Bennett BJ**, Rattazzi M, Kirk EA, Bea F, Speer MY, Giachelli CM, Rosenfeld ME; Abstracts of the 5th Annual Conference on Arteriosclerosis, Thrombosis, and Vascular Biology. Arterioscler Thromb Vasc Biol 2004 24: e51 - e136 <http://atvb.ahajournals.org/cgi/reprint/24/5/e51>
17. Infection of Macrophages with Chlamydia Pneumoniae May Contribute to Vascular Calcification and the Conversion of Smooth Muscle Cells to an Osteoblast/ Chondrocyte-Like Phenotype Rattazzi M, **Bennett BJ**, Yaraei K, Campbell LA, Kuo CC, Giachelli CM, Rosenfeld ME; Bea F. Abstracts of the 5th Annual Conference on Arteriosclerosis, Thrombosis, and Vascular Biology Arterioscler Thromb Vasc Biol 2004 24: e51 - e136 <http://atvb.ahajournals.org/cgi/reprint/24/5/e51>

Brian J. Bennett, PhD

18. Dietary fat, DHEA, and Substrate Utilization. **Bennett B**, Ronan AM, Tagliaferro AR. Am J Clin Nutr 71(5);A75, 1997

Manuscript in Press:

Teaching Experience:

Graduate Teaching Assistant: Nutritional Sciences

- Nutrition 300: Nutrition for Today, University of Washington, Fall 2004
- Food and People, University of New Hampshire, 1995-1996

Guest Lecturer

- CM222 “Mouse Models of Genetics” University of California, Los Angeles, Spring 2009
- Nutrition 522 “Nutrition and Metabolism” University of Washington, Spring 2005

External Funding

Ongoing Support

1K99HL102223 (B.J. Bennett, PI)	12/1/2010-12/1/2015	100% Effort
NIH/NHLBI	100,000 (annual direct costs)	

This project focuses on the use of natural variations in mice to identify genetic factors contributing to atherosclerosis using a dominant hyperlipidemia model. Two genes identified in this manner, CD44 and FMO3, are being characterized at the molecular level.

Completed Support

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| • National Institutes of Health Training Grant, T32-DK-07789 | 2008-2009 |
| • Phillip Morris Post Doctoral Fellowship Grant, 59656 | 2007-2009 |
| • American Heart Association Predoctoral Fellowship | 2003-2005 |

Service: Professional

Ad hoc Reviewer	Journal of Lipid Research (1)	2011
	Atherosclerosis (1)	2011
	European Journal of Clinical Investigation (1)	2010
	Genome Biology (1)	2008
	BMC Genomics (1)	2008

Association Memberships

American Heart Association:

Council for Arteriosclerosis, Thrombosis and Vascular Biology	2007-2011
European Atherosclerosis Society	2009-2011
North American Vascular Biology Organization (NAVBO)	2009-2011
American Society for the Advancement of Science	2011