
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Beck, Melinda A	POSITION TITLE Professor		
eRA COMMONS USER NAME mabeck			
<i>EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of California, Berkeley	BA	1978	Zoology
California Polytechnic State University, SLO	MS	1983	Biological Sciences
The Ohio State University, Columbus, OH	Ph.D.	1987	Medical Microbiology and Immunology

A. Personal Statement

B. Positions and Honors

Positions

- 3/87 - 6/89 Postdoctoral Research Associate, Department of Pathology and Microbiology, College of Medicine, University of Nebraska Medical Center, Omaha, NE.
- 7/89 - 6/91 Instructor, Department of Pathology and Microbiology, College of Medicine, University of Nebraska Medical Center, Omaha, NE.
- 7/91 - 9/91 Assistant Professor, Department of Pathology and Microbiology, College of Medicine, University of Nebraska Medical Center, Omaha, NE.
- 10/91 - 9/92 Visiting Assistant Professor, Department of Pediatrics, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC.
- 9/92 - Present Assistant Professor, Department of Pediatrics, School of Medicine, University of North Carolina at Chapel Hill.
- 9/93-Present Fellow, Frank Porter Graham Child Development Center, University of North Carolina at Chapel Hill
- 9/96-4/98 Assistant Professor, Department of Nutrition, School of Medicine and School of Public Health, University of North Carolina at Chapel Hill
- 4/98-8/04 Associate Professor, Departments of Pediatrics and Nutrition, School of Medicine and School of Public Health, University of North Carolina at Chapel Hill
- 9/04-3/05 Professor, Departments of Pediatrics and Nutrition, School of Medicine and School of Public Health, University of North Carolina at Chapel Hill
- 4/04-present Professor, Department of Nutrition, School of Medicine and School of Public Health, University of North Carolina at Chapel Hill
- 6/05-present Director, Division of Nutritional Biochemistry, Department of Nutrition

Honors

- American Society for Microbiology, Foundation for Microbiology Lectures Program. Speaker: July 1, 1995 - June 30, 1997.
- E.L.R. Stockstad Award, 2001. American Society for Nutritional Sciences
- Associate Editor, Experimental Biology and Medicine
- Instituto de Medicina Tropical "Pedro Kouri", Havana, Cuba. Commemorative Centenario del Natalicio de Pedro Kouri, medal given for outstanding contribution to science, 2/2003
- Member: NIH Study Section- Integrated Nutrition and Metabolic Processes

Ad Hoc member of several NIH study sections

B. 15 Selected Peer-Reviewed Publications

- Beck, M.A.**, Shi, Q., Morris, V.C., and Levander, O.A. Rapid genomic evolution of a non-virulent coxsackievirus B3 in selenium-deficient mice results in selection of identical virulent isolates. *Nature Medicine* 1: 433-436. PMID: 7585090
- Cook, D.N., **Beck, M.A.**, Coffman, T.M., Kirby, S.L., Sheridan, J.H., Pragnell, I.B., and Smithies, O. 1995. MIP-1 α required for normal inflammatory response to viral infection. *Science* 269: 1583-1585. PMID: 7667639
- Beck, M.A.** and Levander, O.A. 1998. Dietary oxidative stress and the potentiation of viral infection. *Ann. Rev. Nutr.* 18:93-116. PMID: 9706220
- McDade TW, **Beck MA.**, Kuzawa C. and Adair LS. 2001. Prenatal undernutrition, postnatal environments, and antibody response to vaccination in adolescence. *American Journal of Clinical Nutrition.* 74:543-8. PMID: 11566655
- Beck, M.A.**, Nelson, H.K, Shi, Q., Van Dael, P., Schriffin E.J., Blum S., Barclay D. and Levander, O.A. 2001. Selenium deficiency increases the pathology of an influenza virus infection. *FASEB J* 15:1481-3. PMID: 11387264
- Nelson, H.K, Shi, Q., Van Dael, P., Schriffin E.J., Blum S., Barclay D., Levander, O.A. and **Beck, M.A.** 2001. Host selenium status as a driving force for influenza virus mutations. *FASEB J* 15:1846-8. PMID: 11481250
- McDade, T.W., Kuzawa, C., Adair, L.S., and **Beck, MA.** 2004. Prenatal and early postnatal environments are significant predictors of IgE concentration in Filipino adolescents. *Clin Exp Allergy* 34:44-56. PMID: 14720261
- Beck, M.A.**, Handy, J. and Levander, O.A. 2004. Host nutritional status: The neglected virulence factor. *Trends Microbiol.* 12:417-23. PMID: 15337163
- Gay RT, Belisle S, **Beck MA** and Meydani SM. 2006 An aged host promotes the evolution of an avirulent coxsackievirus strain into a virulent strain. *PNAS* 103:13825-13830. PMID: 16950876
- Smith, AG, Sheridan PA, Harp JB, **Beck MA.** 2007. Increased mortality and altered immune response in obese mice infected with influenza virus. *J. Nutr.* 137(5):1236-43. PMID: 17449587
- Jaspers I, Zhang W, Brighton LE, Carson JL, Styblo M, **Beck MA** 2007. Selenium deficiency alters epithelial cell morphology and responses to influenza. *Free Radic Biol Med.* 15;42(12):1826-1837. PMID: 17512462
- Smith, AG, Sheridan PA, Tseng, R., Sheridan, J, **Beck MA.** 2008. Selective impairment in dendritic cell function and altered antigen-specific CD8+ T cell responses in diet-induced obese mice infected with influenza virus. *Immunol* 126:268-79. PMID: 18754811
- Sheridan PA and **Beck MA.** 2009. The dendritic and T cell responses to herpes simplex virus are modulated by dietary vitamin E. *Free Radic Biol Med* 46:1581-1588. PMID: 19303435
- Schwerbrock NM, Karlsson EA, Shi Q, Sheridan PA and **Beck MA.** 2009. Fish oil-fed mice have impaired resistance to influenza infection. *J Nutr* 139:1588-94. PMID 19549756.
- Karlsson, EA, Sheridan PA, Beck MA. 2010. Diet-induced obesity impairs the T cell memory response to influenza virus infection. *J. Immunol* In Press

C. Research Support

Current

RO1 AI078090 12/01/08-11/30/11

NIH/NIAID

Role of influenza infection in a vaccinated obese population

Study designed to determine if obesity can impact the immune response to influenza vaccination

Role: PI

5P30 DK56350 (Zeisel) 09/30/99-09/20/10

NIH/NIDDK

Clinical Nutrition Research Unit

Core C: Molecular Biology and Nutritional Biochemistry

The goal of the core is to provide services to the CNRU participants in the area of antioxidant biochemistry and molecular biology techniques

Role: Director of Core

Completed

R01 AI055050 10/1/03-9/30/08

NIH/NIAID

Nutrition, Viral Mutation and Host Defense

Study designed to determine the mechanism involved in viral mutations induced by host nutritional stress.

Role: PI

RO1 EY12410 4/15/99-4/14/07

NIH/NEI

The Role of Nutrition in Virus-Induced Optic Neuropathy

This study was designed to understand how a nutritional deficiency in a Cuban population led to viral mutations and a new pathogenesis of coxsackievirus A9.

Role: PI