

# CURRICULUM VITAE

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## EDUCATION AND TRAINING

### Undergraduate

<u>Years of Attendance</u>	<u>University City, State</u>	<u>Degree, Year Awarded</u>	<u>Field</u> _____
1972-1980	Asmera University, Asmera, Eritrea	BS, 1980	Biology/Chemistry

### Graduate

<u>Years of Attendance</u>	<u>University City, State</u>	<u>Degree, Year Awarded</u>	<u>Field</u>
1981-1983	Addis Abeba University, Addis Abeba, Ethiopia	MS, 1983	Immunology/Biology
1985-1991	Wayne State University, Detroit, MI, USA	PhD, 1991	Biochemistry/Immunology

## Post-Graduate

Dates	Name and Location of Institution	Type of post-graduate work (Internship, Residency, Fellowship or any other training experience)	Name of Program Director and Discipline
1992-1994	Wayne State University, Detroit, MI, USA	Research Associate	David R. Evans, PhD
1994-1997	Harvard Medical School/BI, Boston, MA, USA	Research Fellow	Michael Simons, MD

## APPOINTMENTS AND POSITIONS

### Academic

Years Position Held	Title	Department, School, Name and Location of Institution
2007-present	Research Assistant Professor	Department of EOH, GSPH, University of Pittsburgh, Pittsburgh, PA
2006-2007	Research Assistant Professor	Department of MGB, School of Medicine, University of Pittsburgh, Pittsburgh, PA
2001-2006	Assistant Professor	Department of Medicine, Dartmouth Medical School, Dartmouth College, Hanover, NH
1997-2001	Instructor	Department of Medicine, Harvard Medical School, Harvard University, Boston, MA
1991	Graduate Research Assistant, WSU, Detroit, MI	Department of Biochemistry, WSU School of Medicine, WSU, Detroit, MI
1988-1990	Graduate Teaching Assistant	Department of Biochemistry, WSU School of Medicine, WSU, Detroit, MI
1984-1985	Research Fellow	Armauer Hansen Research Institute, Addis Abeba, Ethiopia
1983-1985	Lecturer I	Asmera University, Asmera, Eritrea
1981-1983	Assistant lecturer	Asmera University, Asmera, Eritrea
1980-1981	Graduate Assistant	Asmera University, Asmera, Eritrea
1977-1980	Science Technical Assistant	Asmera University, Asmera, Eritrea

## MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

Years Inclusive	Name of Society
2000-2005	American Society for Matrix Biology
2004	North American Vascular Biology Organization
1999-00	American Society of Cell Biology
1990-91	American Society of Biochemistry and Molecular Biology
1989-91	The Protein Society
2010-present	American Thoracic Society

## HONORS

Year of Award	Title of Award Awarding Association
1990-1991	Thomas C. Rumble Fellow, Wayne State University, Detroit, MI
1985-1988	United Nations Development Program Scholarship, Asmera University
1980	BS, graduated with distinction, Asmera University

## PROFESSIONAL ACTIVITIES

### 1. Teaching

#### a. Courses Taught

<b>Years Taught</b>	<b>Course Number: Title</b>	<b>Hours of Lecture, credits Average Enrollment</b>	<b>Role in course Primary/Coordinator</b>
2018	Molecular Fundamentals/EOH Course #3210	3hrs	Mentor
2017	Molecular fundamentals/EOH Course #3210	4hrs	Mentor
2015	Molecular Fundamentals/EOH Course #3210	6hrs	Mentor
2012	Molecular Fundamentals/EOH Course #3210	6hrs	Mentor
2010	Molecular Fundamentals/EOH Course #3210	6hrs	Mentor
1989	Biochemistry Case Study Problem Solving Sessions (Year I Medical Students)		Tutorial coordinator
1986- 1988	Immunology/Microbiology Laboratory Sessions (Year I Medical Students)		Laboratory instructor
1981- 1983	Year I Biology Laboratory Sessions Year IV Parasitology Laboratory Sessions		Laboratory instructor Laboratory instructor
	The Biology of the Malarial Parasite (Year IV) Parasitology (Year IV)		Lecturer Lecturer
1984- 1985	Invertebrate Zoology (Year II) Principles of Biology (Year I)		Lecturer Lecturer
1983- 1984	Mammalian Physiology (Year IV)		Lecturer
1980- 1981	Year I & II Biology Laboratory Sessions		Laboratory Instructor

**b. Other Teaching** (lectures, tutorials and continuing education courses)

<b>Date(s)</b>	<b>Type of Teaching</b>	<b>Title</b>
1996, 1997	M.D. residents doing research rotations in molecular biology	Research Supervisor
1990-1992	Graduate students doing their laboratory rotation	Research supervisor
1983-1984	Senior undergraduate students working on hydatidosis	Research advisor

**c. Supervision of Post-Doctoral Students, Residents, and Fellows**

<b>Dates Supervised</b>	<b>Name of Student</b>	<b>Position of Student</b>
July 2018-present	Heather Ann Wells	Pre-Doctoral Fellow
May 2011-Feb 2012	Swapna Upadhyay	Post-Doctoral

**d. Other Teaching and Training**

<b>Dates</b>	<b>Teaching Activity</b>	<b>Program/Description</b>
May 2019-present	Research training	Brianna Watson/Undergraduate Summer Research Intern
May 2019 – present	Research training	Theodore Pierce Larkin/Senior Undergraduate student/technician
May 2019-present	Supervision - Research training	Tengziyi Ge/Graduate Student
June 2018- July 2019	Research training	Brianna Watson/Undergraduate Summer Research Intern
Spring 2015	Research training	Grace Lee, Elisabeth Levert, Hannah Chin/Undergraduate students
Summer 2015	Research training	Madeline Lee/High School Student
May 2014- July 2014	Research training	Natalia Bondarchuk/Undergraduate student
April 2013- April 2014	Supervision – research training	Shuo Cao/MPH student
May 2010- July 2010	Research training	Anju Manandhar/Research Technician
May 2009- July 2009	Research training	Hayley Leight/Undergraduate Summer Research Intern
March 23, 2012	Job shadowing	Jamall Young/Senior High

## 2. Research and Training

### a. Grants and Contracts Received

#### Principal Investigator

<b>Years Inclusive</b>	<b>Grant and/or Contract Number and Title</b>	<b>Source</b>	<b>Annual Direct Costs</b>	<b>% Effort</b>
2000–2005	K01 HL04362 Bein (PI)	NIH/ NHLBI		100

#### Co-Investigator on Grants

<b>Years Inclusive</b>	<b>Grant and/or Contract Number and Title</b>	<b>Source</b>	<b>Annual Direct Costs</b>	<b>% Effort</b>
2007-2009	R01-HL077763 (Co-investigator, Leikauf PI)	NIH/NIEHS		50
2007-2011	U01-ES015675 (Co-investigator, Leikauf PI)	NIH/NIEHS		50
2011-2016	U02-ES015675 (Co-investigator, Leikauf PI)	NIH/NIEHS		90
2017-2020	U01 ES015675-11 (Co-investigator, Leikauf PI)	NIH/NIEHS		90

# PUBLICATIONS

## 1. Refereed Articles

Bein, K. and Olcen, P. Detection of malaria antigens in urine, using a solid phase radioimmunoassay: preliminary study. *Ethiopian Medical Journal* 1984; 92:119-127. PMID: 6378630

Bein K, Simmer JP, Evans DR. Molecular cloning of a cDNA encoding the amino end of the multifunctional protein CAD and analysis of the 5'-flanking region of the CAD gene. *J. Biol. Chem.* 1991; 266: 3791-9. PMID: 1671675.

Evans DR, Bein K, Guy HI, Liu X, Molina JA, Zimmermann BH. CAD gene sequence and the domain structure of the mammalian multifunctional protein. *Biochem Soc. Trans.* 1993; 21:186-91. PMID: 8095469

Husain M, Bein K, Jiang L, See V, Alper S, Simons M, Rosenberg RD. c-myb-dependent cell cycle progression and Ca<sup>2+</sup> storage in cultured vascular smooth muscle cells. *Circ Res* 1997; 80: 617-26. PMID: 9130442

Husain M, Jiang L, See V, Bein K, Simons M, Alper SL, Rosenberg RD. Regulation of vascular smooth muscle cell proliferation by plasma membrane Ca(2+)-ATPase. *Am J. Physiol* 1997; 272: C1947-59. PMID: 9227424

Bein K, Husain M, Ware JA, Mucenski ML, Rosenberg RD, Simons M. c-Myb function in fibroblasts. *J. Cell Physiol.* 1997; 173: 319-26. PMID: 9369944

Bein K, Ware JA, Simons M. Myb-dependent regulation of thrombospondin 2 expression: Role of mRNA stability. *J Biol Chem* 1998; 273: 21423-9. PMID: 9694906

Bein K, Simons M. Thrombospondin type 1 repeats interact with matrix metalloproteinase 2. Regulation of metalloproteinase activity. *J Biol Chem* 2000; 275: 32167-73. PMID: 10900205

Bein K, Odell-Fiddler ET, Drinane M. Role of TGF-beta1 and JNK signaling in capillary tube patterning. *Am J Physiol Cell Physiol.* 2004; 287: C1012-22. PMID: 15201140

Li H, Baskaran R, Krisky DM, Bein K, Grandi P, Cohen JB, Glorioso JC. Chk2 is required for HSV-1 ICP0-mediated G2/M arrest and enhancement of virus growth. *Virology.* 2008; 375(1):13-23 PMID: 18321553

Bein K, Wesselkamper SC, Liu X, Dietsch M, Majumder N, Concel VJ, Medvedovic M, Sartor MA, Henning LN, Venditto C, Borchers MT, Barchowsky A, Weaver TE, Tichelaar JW, Prows DR, Korfhagen TR, Hardie WD, Bachurski CJ, Leikauf GD. Surfactant associated protein B is critical to survival in nickel-induced injury in mice. *Am J Respir Cell Mol Biol.* 2009; 41(2):226-36 PMID: 19131640

Ganguly K, Depner M, Fattman C, Bein K, Oury TD, Wesselkamper SC, Borchers MT, Schreiber M, Gao F, von Mutius E, Kabesch M, Leikauf GD, Schulz H. Superoxide dismutase 3, extracellular (SOD3) variants and lung function. *Physiol Genomics* 2009; 37(3): 260-7 PMID: 19318538

Stark JM, Barmada MM, Winterberg AV, Majumber N, Gibbons WJ Jr, Stark MA, Sartor MA, Medvedovic M, Kolls J, Bein K, Mailaparambil B, Krueger M, Heinzmann A, Leikauf GD, Prows DR. Genomewide association analysis of respiratory syncytial virus infection in mice. *J Virol.* 2010 Mar;84(5):2257-69. Epub 2009 Dec 16. PMID:20015999

Jang AS, Concel VJ, Bein K, Brant KA, Liu S, Pope-Varsalona H, Dopico Jr RA, Di YP, Knoell DL, Barchowsky A, Leikauf GD. Endothelial Dysfunction And Claudin 5 Regulation During Acrolein-induced Lung Injury. *Am J Respir Cell Mol Biol.* 2011 Apr;44(4):483-90. Epub 2010 Jun 4. PMID: 20525806



Leikauf GD, Pope-Varsalona H, Concel VJ, Liu P, Bein K, Brant KA, Dopico RA, Di YP, Jang AS, Dietsch M, Medvedovic M, Li Q, Vuga LJ, Kaminski N, You M, Prows DR. Functional genomics of chlorine-induced acute lung injury in mice. *Proc Am Thorac Soc.* 2010 Jul;7(4):294-6. PMID: 20601635

Leikauf GD, Concel VJ, Liu P, Bein K, Berndt A, Ganguly K, Jang AS, Brant KA, Dietsch M, Pope-Varsalona H, Dopico Jr RA, Di YP, Li Q, Vuga LJ, Medvedovic M, Kaminski N, You M, Prows DR. Haplotype Association Mapping of Acute Lung Injury in Mice Implicates Activin A Receptor, Type 1. *Am J Respir Crit Care Med.* 2011 Jun 1;183(11):1499-509. Epub 2011 Feb 4. PubMed PMID: 21297076.

Bein K, Leight H, Leikauf GD. JUN-CCAAT/Enhancer Binding Protein (C/EBP) Complexes Inhibit Surfactant Associated Protein B Promoter Activity. *Am J Respir Cell Mol Biol* 2011 Aug;45(2):436-44. Epub 2010 Dec 10. PubMed PMID: 21148742.

Fabisiak JP, Medvedovic M, Alexander DC, McDunn J, Concel VJ, Bein K, An Soo Jang AS, Annerose Berndt5 A, Louis J Vuga LJ, Kelly A Brant KA, Hannah Pope-Varsalona H, Richard A Dopico RA Jr. 1, Koustav Ganguly K, Swapna Upadhyay S, Qian Li Q, Naftali Kaminski NK, George D. Leikauf GD. Integrative metabolome and transcriptome profiling reveals discordant energetic stress between mouse strains with differential sensitivity to acrolein-induced acute lung injury. *Molecular Nutrition and Food Science* 2011 Sep;55(9):1423-34. Epub 2011 Aug 8. PMID: 21823223

Leikauf GD, Pope-Varsalona H, Concel VJ, Liu P, Bein K, Berndt A, Martin TM, Ganguly K, Jang AS, Brant KA, Dopico RA Jr, Upadhyay S, Di YP, Li Q, Hu Z, Vuga LJ, Medvedovic M, Kaminski N, You M, Alexander DC, McDunn JE, Prows DR, Knoell DL, Fabisiak JP. Integrative assessment of chlorine-induced acute lung injury in mice. *American journal of respiratory cell and molecular biology.* 2012 Aug;47(2):234-44. PMID:22447970. PMCID:PMC3423464.

Bein K, Di Giuseppe M, Mischler SE, Ortiz LA, Leikauf GD. LPS-treated macrophage cytokines repress surfactant protein-B in lung epithelial cells. *American journal of respiratory cell and molecular biology.* 2013 Aug;49(2):306-15. PMID:23590297.

Leikauf GD, Concel VJ, Bein K, Liu P, Berndt A, Martin TM, Ganguly K, Jang AS, Brant KA, Dopico Jr RA, Upadhyay S, Cario CL, Di YP, Vuga LJ, Kostem E, Eskin E, You M, Kaminski N, Prows DR, Knoell DL, Fabisiak JP. Functional genomic assessment of phosgene-induced acute lung injury in mice. *American journal of respiratory cell and molecular biology.* 2013 Sep;49(3):368-83. PMID:23590305.

Ganguly K, Martin TM, Concel VJ, Upadhyay S, Bein K, Brant KA, George L, Mitra A, Thimraj TA, Fabisiak JP, Vuga LJ, Fattman C, Kaminski N, Schulz H, and Leikauf GD. Secreted Phosphoprotein 1 (*Spp1*) is a Determinant of Lung Function Development in Mice. *American journal of respiratory cell and molecular biology.* 2014 May 09

## 2. Books and Book Chapters

1. Paola Grandi, Kiflai Bein, Costas G. Hadjipanayis, Darren Wolfe, Xandra O. Breakefield and Joseph C. Glorioso. Application of HSV-1 Vectors to the Treatment of Cancer. In *Viral Therapy of Cancer*, edited by Harrington, K.J., Vile, R.G., and Pandha, H. Chichester, England: Hoboken, NJ; John Wiley & Sons. June, 2008, Page 19

## 3. Published Proceedings

1. Authors (same order as publication). Title of Article. *Journal Title*. Year and Date. Volume (Issue): pages.

1. Bein, K. and Evans, D.R. De novo pyrimidine nucleotide biosynthesis in synchronized Chinese hamster ovary cells. *Adv. Exp. Med. Biol.* 1994; 370: 545-548. PMID: 7660967

2. Bein K. and Evans, D.R. (1994). Stimulation by 6-azauridine of de novo pyrimidine biosynthesis in BHK 165023 cells. *Adv. Exp. Med. Biol.* 1994; 370: 555-558. PMID: 7544952

#### **4. Review Articles**

1. Authors (same order as publication). Title of Article. *Journal Title*. Year and Date. Volume (Issue): pages.

Bein, K. and Leikauf, G.D. Acrolein – a pulmonary hazard. *Molecular Nutrition and Food Research* 2011 Sep;55(9):1342-60. PMID: 21994168

## 5. Published Abstracts

1. Bein, K., Grabowski, S.M., Lefford, M.J. and Bjune, G. Demonstration of antigens in urine for the detection of relapses and the evaluation of chemotherapy in leprosy. International Symposium on the Impact of Biotechnology on Diagnostics. Rome 1985; Apr 16-18: 151
2. Grabowski, S.M., Bein, K., Lefford, M.J. and Bjune, G. The use of a synthetic antigen, BSA-dissaccharide of the phenolic glycolipid I antigen of *M. leprae* for mass screening of leprosy using the RIA and the ELISA. International Symposium on the Impact of Biotechnology on Diagnostics. Rome 1985; Apr 16-18:151.
3. Bein, K., Sasaki, D. and Leon, M.A. Relationship between Ig class and production of direct hemolytic plaques. Mid-West Autumn Immunology Conference. Chicago 1987; Nov 14-16; 16: #48.
4. Bein, K. and Evans, D.R. In vitro and in vivo expression in mammalian cells of a full-length hamster CAD cDNA. The FASEB J. Atlanta 1991; Apr 21-25: 4816.
5. Bein, K. and Evans, D.R. Expression of a full-length cDNA encoding the multifunctional protein CAD in mammalian cells. The Genes and Enzymes of Pyrimidine Biosynthesis Conference. Glasgow, Scotland 1992; Sep 12-14.
6. Husain, M., Jiang, L., Bein, K., Ware, J.A., Alper, S.L., Simons, M. and Rosenberg, R.D. Dominant negative c-myc constructs lower intracellular calcium levels and slow cell cycle progression in vascular smooth muscle cells. Supplement to Circulation, 92: #1422. Anaheim, California 1995; November 13-16.
7. Bein, K. and Simons, M. Binding of thrombospondin 1 and 2 type 1 repeats to and regulation of metalloproteinase 2. The American Society for Cell Biology 39th Annual Meeting: Washington, D.C. 1999. Dec 11-15.
8. Bein, K. and Simons, M. Thrombospondins 1 and 2 Inhibit activation of pro-metalloproteinases 2 and 9 enzymes. Supplement to Circulation, 102: #839. New Orleans, Louisiana 2000; November 12-15.
9. Bein, K. Characterization of His6-S peptide-MBP fusion tag produced using the baculoviral expression system. 42<sup>nd</sup> American Society for Cell Biology Annual Meeting San Francisco 2002, Dec 14-18 Molecular Biology of the Cell Vol 13 supplement
10. Bein, K. TGF-B1-induced alteration of capillary tube patterning. North American Vascular Biology Organization Meeting. Pacific Grove, CA 2004. Endothelium 10: 360-61.
11. Bein, K., Leight, H., and Leikauf, G.D. CCAAT/Enhancer-Binding Protein-alpha And -beta Recognition Sites Contribute To Jun-dependent Inhibition Of Surfactant Associated Protein B Promoter Activity. *Am. J. Respir. Crit. Care Med.*2010; 181: A4952
12. Leikauf, G.D., Pope-Varsalona, H. Concel, V.J., Liu, P., Bein, K., Brant, K.A., Dopico, R.A., Peter Di, Y.P., Jang, An\_S., Medvedovic, M., Li, Q., Vega, L., Kaminski, N., You, M., and Prows, D.R. Candidate Susceptibility Genes Identified By Genomewide Analysis Of Chloride-induced Acute Lung Injury In Mice. *Am. J. Respir. Crit. Care Med.*2010; 181: A5370
13. Jang, A.S., Concel, V.J. Bein, K., Brant, K.A., Liu, S., Pope-Varsalona, H. Dopico, R.A. Jr. Jr., Peter Di, Y.P., Barchowsky, A., and Leikauf G.D. Endothelial Dysfunction And Claudin 5 Regulation During Acrolein-induced Lung Injury. *Am. J. Respir. Crit. Care Med.*2010; 181: A3607
14. Bein, K and Leikauf, G.D. Macrophages Mediate LPS-Induced Increased CCAAT/enhancer Binding Protein (C/EBP), Beta (C/EBP-Beta) Transcripts In Lung Epithelial Cells *Am. J. Respir. Crit. Care Med.*2011; 183: A5099

15. Ganguly K, Martin TM, Concel VJ, Upadhyay S, Bein K, George L, Mitra A, Dopico RA, Schultz H, Leikauf GD. Secreted Phosphoprotein 1 (spp1) Is A Determinant Of Lung Function Development In Mice. *Am J Respir Crit Care Med*. 2013; 187.

16. Leikauf, G. D., Martin, T., Ganguly, K., Bein, K., Concel, V., Brant, K. A., Di, Y., Upadhyay, S., Fabisiak, J. Functional Genomic Assessment of Ammonia-Induced Acute Lung Injury in Mice. *Am J Respir Crit Care Med* 2018;197:A2261.

17. Birru, R., Bondarchuk, N., Lin, Q., Bein, K., Di, Y., Leikauf, G. D. Phloretin, an Apple Polyphenol, Reduces Chronic Obstructive Pulmonary Disease (COPD) Pathogen-Induced Injury in Airway Epithelial Cells. *Am J Respir Crit Care Med* 2018;197:A3854.

## 6. Presentations

<b>Date</b>	<b>Title of Presentation</b>	<b>Venue</b>
June 2018	Countermeasure Therapeutics for Acute Lung Injury	12 <sup>th</sup> Annual NIH CounterACT Research Network Symposium
Feb 4, 2004	TGF-B1-induced alteration of capillary tube patterning	NAVBO Workshop on Vascular Development. Pacific Grove, CA
Nov 14, 2000	Thrombospondin 1 and 2 inhibit activation of pro-metalloproteinases 2 and 9 enzymes.	American Heart Association. New Orleans, Louisiana.
Nov 9, 1997	The proto-oncoprotein c-Myb-dependent thrombospondin 2 expression.	NHLBI Annual Cardiovascular Minority Supplement Awardee Session. Orlando, FL.
Sept 13, 1992	Expression of a full-length cDNA encoding the multifunctional protein CAD in mammalian cells.	An International Conference on the Genes and Enzymes of Pyrimidine Biosynthesis. Glasgow, Scotland.

## 7. Other Publications

### Educational Material

1. Bein, K. Chromatographic Techniques (a result of an assignment to prepare a teaching material), Asmera University, 1981.

### Thesis

1. Kiflai Bein. Molecular cloning of the CAD cDNA and the regulation of CAD expression (Dissertation). Detroit, Wayne State University; 1991.
2. Kiflai Bein. Detection of P. falciparum antigen in urine and blood of malaria patients using solid phase radioimmunoassay (M.S thesis). Addis Abeba. Addis Abeba University; 1983.

### 3. Service (Professionally Related)

#### a. University/Institute of Higher Learning

Years	Committee	Position
1992-1993	Helped in running Dr. D. R. Evans' laboratory in Detroit, MI while he was in Paris on a sabbatical leave	Research associate
1984	Field trip to collect marine invertebrate specimens for teaching purposes, Massawa, Eritrea	Co-ordinator
1983	"Principles of Biology" Asmera University Asmera, Eritrea	Co-ordinator

#### b. Manuscript and Other Document/Publication Review

Dates	Journal Title
2007	Gene Therapy
2011-present	American Journal of Respiratory Cell and Molecular Biology
2014	Biochimica et Biophysica Acta
2019	Journal of Cytotherapy

