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EDUCATION

Ph.D. in Biology

The Georgia Institute of Technology

May 2002
Atlanta, Georgia

B.A. in Biology, *cum laude*

Roanoke College

May 1995
Salem, Virginia

AWARDS AND FELLOWSHIPS

GAANN Fellowship, Georgia Institute of Technology	2000-2002
NSF Environmental Biosensors Fellowship	1997-1999
Academic All American, Roanoke College	1995
Roanoke College Honors Scholarship	1991-1995

RESEARCH AND PROFESSIONAL EXPERIENCE

Department of Surgery, Emory University

September 2006 to Present

Assistant Professor of Surgery, RT

- Research focus: Molecular engineering of novel antithrombotics and anti-inflammatory agents.

Department of Surgery, Emory University

June 2002 to August 2006

Senior Research Scientist, Supervisor, Research Advisor: Dr. Elliot Chaikof

- Developed novel anticoagulant and anti-inflammatory agents, characterizing *in vitro* activity and *in vivo* applicability.
- Designed protein expression and purification protocols, implement expression scale-up and endotoxin removal strategies.
- Characterize the role of heparan sulfate proteoglycans in the pathogenesis of atherosclerosis and abdominal aortic aneurysm.

Department of Biology, Georgia Tech

September 1996 to May 2002

Ph.D. Graduate Research, Research advisor: Dr. Thomas DiChristina

Thesis Title: Dissimilatory Fe(III) Reduction by Shewanella putrefaciens: Genetic and Biochemical Analysis

- Designed protein purification protocol for characterization of terminal Fe(III) reductase, developed cell free enzyme activity assay.
- Analyzed polypeptide profiles of *S. putrefaciens* using 2-D gel electrophoresis, developed 2-D protocol, identified proteins expressed under varying terminal electron accepting conditions.
- Genetic and biochemical analyses of Fe(III)-reduction-deficient mutants, used subcloning and complementation analysis to restore mutant activity, constructed a physiological model for Fe(III) reduction, used site-directed mutagenesis to confirm model.

Department of Biology, Roanoke College

August 1994 to May 1995

Undergraduate Honors Internship, Research advisor: Dr. Karen Adkinson

- Genetic Counseling Services, Roanoke Memorial Hospital

TEACHING EXPERIENCE

Teaching Assistant: School of Biology, Prokaryotic Molecular Genetics (BIOL 6608)
The Georgia Institute of Technology, Fall 1997

- Exam grading, tutoring, provided supervision in laboratory course

Teaching Assistant: School of Biology, Advanced Microbial Physiology (BIOL 6611)
The Georgia Institute of Technology, Spring 1997

- Exam grading, tutoring, provided supervision in laboratory course

Teaching Assistant: School of Biology, General Biology (BIOL 1510)
The Georgia Institute of Technology, Fall 1996

- Develop and instruct pre-lab lecture, created and graded quiz and lab practicals

MENTORING EXPERIENCE

Mentor for Undergraduate Students in Research Experience for Undergraduates (REU) Program
The Georgia Institute of Technology, Summer 2001

Mentor for Dekalb county middle school students in preparation of Georgia State Science Fair
Summer 1997, 1998, 1999

PROFESSIONAL ORGANIZATIONS

American Heart Association
American Society for Microbiology

PATENTS

1. Chaikof EL, Cazalis CS, Haller CA. Thrombomodulin Conjugates, PCT application has been filed
2. Chaikof EL, Haller CA, Cui W, Sun XL. CD39 Membrane-Mimetic Assemblies, Provisional patent application has been filed

PUBLICATIONS

1. Wang W, Haller CA, Wen J, Wang P, Chaikof EL. Decoupled syndecan 1 mRNA and protein expression is differentially regulated by angiotensin II in macrophages. *J Cell Physiol* 2008; 214(3): 750-6.
2. Stabler CL, Sun XL, Cui W, Wilson JT, Haller CA, Chaikof EL. Surface re-engineering of pancreatic islets with recombinant azido-thrombomodulin. *Bioconj Chem* 2007; 18(6): 1713-5.
3. Wen J, Wang P, Smith SV, Haller CA, Chaikof EL. Syndecans are differentially expressed during the course of aortic aneurysm formation. *J Vasc Surg* 2007; 46(5): 1014-25.

4. Julien MA, Haller CA, Wang P, Wen J, Chaikof EL. Mechanical strain induces a persistent upregulation of syndecan-1 expression in smooth muscle cells. *J Cell Physiol* 2007; 211: 167-173.
5. Jordon SW, Haller CA, Sallach RE, Apkarian RP, Hanson SR, Chaikof EL. The effect of a recombinant elastin-mimetic coating of an ePTFE prosthesis on acute thrombogenicity in a baboon arteriovenous shunt. *Biomaterials* 2007; 28: 1191-1197.
6. Julien MA, Wang P, Haller CA, Wen J, Chaikof EL. Mechanical strain regulates syndecan-4 expression and shedding in smooth muscle cells through differential activation of MAP kinase signaling pathways. *Am J Physiol Cell Physiol* 2007; 292: 517-525.
7. Haller CA, Cui W, Wen J, Robson SC, Chaikof EL. Reconstitution of CD39 in liposomes amplifies nucleoside triphosphate diphosphohydrolase activity and restores thromboregulatory properties. *J Vasc Surg* 2006; 43: 816-823.
8. Sun XL, Haller CA, Wu X, Conticello VP, Chaikof EL. One-pot glyco-affinity precipitation purification for enhanced proteomics: the flexible alignment of solution-phase capture/release and solid-phase separation. *J Proteome Res* 2005; 4: 2355-2359.
9. Wu X, Sallach R, Haller CA, Caves JA, Nagapudi K, Conticello VP, Levenston ME, Chaikof EL. Alterations in physical cross-linking modulate mechanical properties of two-phase protein polymer networks. *Biomacromolecules* 2005; 6: 3037-3044.
10. Sun XL, Cui W, Haller CA, Chaikof EL. Site-specific multivalent carbohydrate labeling of quantum dots and magnetic beads. *Chembiochem* 2004; 11: 1593-1596.
11. Nagapudi K, Brinkman WT, Leisen J, Thomas BS, Wright ER, Haller CA, Apkarian RP, Conticello VP, Chaikof EL. Protein-based thermoplastic elastomers. *Macromolecules* 2004; 38: 345-354.
12. Cazalis CS, Haller CA, Sease-Cargo L, Chaikof EL. C-terminal site-specific PEGylation of a truncated thrombomodulin mutant with retention of full bioactivity. *Bioconj Chem* 2004; 15: 1005-1009.
13. DiChristina TJ, Moore CM, Haller CA. Dissimilatory Fe(III) and Mn(IV) reduction by *Shewanella putrefaciens* requires ferE, a homolog of the pule (gspE) type II protein secretion gene. *J Bacteriol* 2002; 184: 142-151.

BOOK CHAPTER

1. Haller C, DiChristina TJ. Genetic approaches in bacteria with no natural genetic systems. In: *Modern Microbial Genetics*, Second Edition. Eds. Streips and Yasbin. John Wiley and Sons, New York.

SELECTED PRESENTATIONS

1. Haller CA, Smith S, Wen J, Wang P, Taylor WR, Chaikof EL. Elevated expression of syndecan-1 during the course of atherosclerosis: potential biomarker for peripheral arterial disease, presented at Arteriosclerosis, Thrombosis and Vascular Biology Annual Conference, Atlanta, GA, April 2008.
2. Haller CA, Smith S, Wen J, Chaikof EL. Macrophage expressed syndecan-1 in the pathogenesis of aortic aneurysm, presented at American Heart Association Scientific Sessions, Chicago, IL, November 2007.

3. Chaikof EL, Haller CA, Cui W, Wen J, Robson SC. CD39 enzymosomes inhibit platelet activation in vitro and vivo, presented at the 1st Annual Academic Surgical Conference, San Diego, CA, Feb 2006.
4. Haller CA, Cui W, Chaikof EL. Functional reconstitution of CD39 into phospholipid vesicles, presented at the 4th Annual Residents Research Day, Emory University, Atlanta, GA, April 2005.
5. Haller CA, Cui W, Robson SC, Chaikof EL. Functional reconstitution of CD39 into phospholipid vesicles, presented at American Heart Association Scientific Sessions, New Orleans, LA, November 2004.
6. Haller CA, DiChristina TJ. Genetic and biochemical analysis of a *Shewanella putrefaciens* Fe(III)-reduction-deficient mutant, presented at the 101st American Society for Microbiology General Meeting, Orlando, FL, May 2001.
7. Haller CA, Moore CM, DiChristina TJ. Biochemical analysis of Fe(III)-reduction-deficient mutants of *Shewanella putrefaciens*, presented at the 100th American Society for Microbiology General Meeting, Los Angeles, CA, May 2000.
8. Haller CA, Moore CM, DiChristina TJ. Genetic evidence linking microbial Fe(III) respiration and extracellular protein secretion, presented at the 99th American Society for Microbiology General Meeting, Chicago, IL, May 1999.
9. Haller CA. Type II protein secretion in *Shewanella putrefaciens*, presented at the Georgia Institute for Technology Graduate Student Symposium, Atlanta, GA, April 1999.
10. Haller CA, Burns B, Wade R, Taratus E, Moulai T, DiChristina TJ. Genetic analysis and phenotypic characterization of Fe(III)-, Mn(IV)-, U(VI)-, and Se(IV)-reduction-deficient mutants, presented at the 98th American Society for Microbiology General meeting, Atlanta, GA, May 1998.