

MELISSA ANN MOSS

CURRICULUM VITAE

PERSONAL

Work Address: 2C02 Swearingen Engineering Center; Dept Chemical Engineering; Univ South Carolina;
Columbia, SC 29208
(803) 777-5604

Birthdate: May 20, 1973
Birthplace: Parkersburg, WV
Citizenship: USA

EDUCATION

2000 Ph.D., Chemical Engineering, Univ Kentucky, Lexington, KY
1995 B.S., Chemical Engineering, Univ Kentucky, Lexington, KY

EXPERIENCE

2019 – Present Interim Chair, Dept Chemical Engineering, Univ South Carolina, Columbia, SC
2017 – Present Professor, Dept Chemical Engineering, Univ South Carolina, Columbia, SC
2014 – Present Program Director, Biomedical Engineering Program, Univ South Carolina, Columbia, SC
2014 – Present Faculty Fellow, South Carolina Honors College, Univ South Carolina, Columbia, SC
2010 – 2016 Associate Professor, Dept Chemical Engineering, Univ South Carolina, Columbia, SC
2004 – 2010 Assistant Professor, Dept Chemical Engineering, Univ South Carolina, Columbia, SC
2002 – 2004 Senior Research Fellow, Dept Neuroscience, Laboratory of Biochemistry, Mayo Clinic College of Medicine, Jacksonville, FL
2000 – 2002 Research Fellow, Dept Neuroscience, Laboratory of Biochemistry, Mayo Clinic College of Medicine, Jacksonville, FL
1995 – 2000 Graduate Research Assistant, Dept Chemical Engineering, Univ Kentucky
1994-1995 Undergraduate Research Assistant, Dept Chemical Engineering, Univ Kentucky
Summer 1994 NSF-Research Experiences for Undergraduates (NSF-REU) Participant, Dept Chemical Engineering, Univ Kentucky

TEACHING EXPERIENCE

ECHE 101 – Introduction to Chemical Engineering, Honors Section Fall 04,05,06
BMEN 101 – Professional Development & Ethics in Biomedical Eng. I Fall 09
BMEN 201 – Professional Development & Ethics in Biomedical Eng. II Spring 09,10,11
2009: Second offering of a newly developed core course for the Biomedical Engineering Program
BMEN 202 – Professional Development & Ethics in Biomedical Eng. II Fall 13
First offering of a restructured core course for the Biomedical Engineering Program
BMEN 303 – Professional Development & Ethics in Biomedical Eng. III Spring 15,16,17,18,19,20
2015: First offering of a restructured core course for the Biomedical Engineering Program
BMEN 354 – Biotransport Spring 13,14
BMEN 390 – Thermodynamics and Kinetics in Biomolecular Systems Fall 12,13
BMEN 391 – Kinetics in Biomolecular Systems Fall 14,15,16,17,18(honors),19,20
2014: First offering of a restructured core course for the Biomedical Engineering Program
BMEN 392 – Fundamentals of Biochemical Engineering Spring 05,06,08,10,12
2005: First offering of a newly developed elective for both chemical and biomedical engineering
BMEN 798 – Graduate Seminar in Literature Search Skills Spring 07,09
2007: First offering of a newly developed core course for the Biomedical Engineering Program
BMEN 720 – Biological Transport Phenomena Fall 07,08,09,10,11,12
2007: First offering of a newly developed core course for the Biomedical Engineering Program

STUDENTS SUPERVISED

Postdoctoral

Francisco J. Gonzalez	Aug 2005 – Jul 2008	Currently employed at Unchained Labs
J. Will Reed	Mar 2012 – Aug 2013	Currently employed as Product Manager at Home Depot, Data Analytics

Doctoral

Joseph A. Kotarek	May 2005 – Aug 2010	NRC Postdoctoral Fellow at NIST; Currently employed as a Biologist at the FDA
Deborah D. Soto-Ortega	Aug 2006 – Dec 2010	Currently employed as Purification Specialist at Amgen
Chen Suo	Aug 2006 – Jul 2011	Currently employed as Strategy and Investment Analyst at China Resources
J. Will Reed	Aug 2008 – Dec 2012	Currently employed as Product Manager at Home Depot, Data Analytics
Kelly A. Wilson	May 2009 – May 2013	Postdoc at Baylor Univ; Currently employed as Program Manager at Univ Texas Health Science Center
Jui-Heng Tseng	Aug 2009 – May 2014	Currently employed as George Von Oesen Research Fellow at Univ North Carolina Medical Center, Neuroscience Center
Kayla Pate	Aug 2011 – May 2016	Postdoc at U Wisconsin-Madison; Currently employed as Associate Research Scientist at Pharmaceutical Product Development
Shelby Chastain	Aug 2012 – Dec 2016	Postdoctoral Fellow at Univ Colorado Anschutz Medical Campus, Dept Anesthesiology; Currently employed as Laboratory Leadership Service Fellow at the Centers for Disease Control and Prevention
Yiying Wang	Aug 2012 – June 2017	Postdoc at Genentech, Microchemistry, Proteomics, and Lipidomics Dept; Currently employed as Data Scientist at DirectBuy
Steven ‘Zeb’ Vance	July 2013 – May 2018	Postdoc at Mount Sinai, Ichan School of Medicine; Currently employed as Research Fellow, New York Blood Center
Nicholas Van der Munnik	Aug 2013 – May 2018	Currently employed as Postdoctoral Scientist at Biogen
Lauren Wolf	May 2013 – May 2019	Currently employed at Sigilon Therapeutics, Inc
Hope Holt	Jan 2014 – May 2019	
Brittany Watson	Aug 2018 – Present	
Mihyun ‘Jane’ Lim	Aug 2019 – Present	

Masters

Adriana A. Reyes Barcelo	Aug 2005 – Aug 2008	Currently employed as Scientist at Kraft Heinz
Bradley White	Aug 2012 – Dec 2014	Currently employed as Process Development Engineer at Vedanta Biosciences

Undergraduate

Charlotte Cooper	Jan 2005 – Aug 2005	
Christopher Butch	Jan 2005 – May 2007 (Magellan Scholar, Honors College Fellow)	
Sarah Holton	Jan 2005 – May 2007 (Honors College Fellow)	
Nouran Ragaban	Summer 2005 (Palmetto Health Summer Intern)	
Corelis Zayas-Ortiz	Summer 2005, 2006 (NSF-REU Participant)	
Christopher Stewart	May 2005 – May 2006 (Senior Honors Thesis)	
Timothy Davis	Aug 2005 – Jul 2008 (Palmetto Health Summer Intern, Magellan Scholar, Senior Honors Thesis)	

Adella Dunagan	Aug 2005 – May 2007 (Honors College Fellow)
Kathryn Johnson	Aug 2005 – May 2007 (Goldwater Scholar, Magellan Scholar, Senior Honors Thesis, NSF GRFP Recipient)
Gopal Chakrabarti	Jan 2006 – May 2007 (Senior Honors Thesis)
Elizabeth Schongar	Summer 2006 (NSF-REU Participant)
Christie Long	Aug 2006 – Dec 2007 (Honors College Fellow)
Fahmin Basher	Aug 2006 – May 2008 (Goldwater Scholar, Honors College Fellow, Magellan Scholar, Senior Honors Thesis)
Meagan Stewart	Summer 2007 (NSF-REU Participant)
Brandon Murphy	May 2007 – May 2010 (Palmetto Health Summer Intern, Magellan Scholar, Degree with Distinction)
Brandon Jamison	Summer 2008 (NSF-REU Participant)
Stephanie Paolini	May 2008 – May 2009 (Senior Honors Thesis)
Emily Matherly	May 2008 – May 2011 (Palmetto Health Summer Intern, Magellan Scholar, Honors College Fellow, Goldwater Honorable Mention, NSF GRFP Recipient)
Sukhivinder Guram	Jan 2009 – Aug 2010 (Magellan Scholar)
Apoorva Srivastava	May 2009 – May 2011 (Howard Hughes Scholar, Honors College Fellow, Magellan Scholar)
Andreea Stoichita	Jul 2009 – Dec 2009 (INBRE-REU Participant)
Mihyun ‘Jane’ Lim	Jan 2010 – May 2012 (Magellan Scholar)
Steve Marcous	Jan 2010 – May 2011 (Magellan Scholar)
Darien Davda	Jan 2010 – May 2012 (Magellan Scholar, Senior Honors Thesis)
Kaliah Jackson	Summer 2010 (NSF-REU Participant)
Shelby Chastain	Summer 2010 (NSF-REU Participant); Aug 2011 – May 2012
Anthony Egal	Jan 2011 – May 2011
Brittani Bungart	Summer 2011 (NSF-REU Participant)
Josiah Roupe	Summer 2011 – Fall 2011
Jas Guram	Summer 2011 – May 2014 (Magellan Scholar)
McCall Rogers	Aug 2011 – May 2013 (Magellan Scholar)
Brooke Carroll	Aug 2011 – May 2013
John Clegg	Jan 2012 – May 2014 (Magellan Scholar, Goldwater Scholar Honorable Mention, NSF GRFP Recipient)
Michelle Faucett	Jan 2012 – May 2013
Lauren Wolf	Jan 2012 – May 2013
Steven ‘Zeb’ Vance	Summer 2012 (NSF-REU Participant)
Elizabeth Moore	April 2013 – May 2016 (Magellan Scholar, Honors College Fellow, Goldwater Scholar Honorable Mention, Truman Finalist)
Jacob White	April 2013 – May 2014
Supriya Juneja	July 2013 – December 2013
Michael Hendley	August 2013 – May 2014
Elizabeth Crummy	August 2013 – May 2016 (Honors College Fellow, Magellan Scholar, NSF GRFP Recipient)
Jocelyn Mackay	August 2014 – May 2015
Allison Tipton	April 2014 – May 2015 (Magellan Scholar, Senior Honors Thesis)
Colman Moore	May 2014 – May 2017 (Honors College Fellow, Magellan Scholar)
Sean Thomas	May 2014 – May 2017 (Magellan Scholar)
Ryan Geiser	May 2014 – May 2017 (Honors College Fellow, Magellan Scholar, Goldwater Scholar, Whittaker Fellow, Gates Cambridge Fellow)
Lindsay Rucker	August 2014 – May 2015 (Honors College Fellow)
Aidan Brougham-Cook	August 2015 – May 2016 (Magellan Scholar)
Jacob Baltzegar	May 2015 – May 2019 (Honors College Fellow, Magellan Scholar, Goldwater Scholar Honorable Mention)
Stephanie Munie	March 2016 – May 2019 (Honors College Fellow)
Samantha How	May 2016 – December 2016 (Honors College Fellow)

Gram Booth	Summer 2016
Jamie Crawford	July 2016 – May 2017
Rachel Hall	August 2016 – May 2018 (Honors College Fellow)
Ashley Guzman	August 2016 – December 2016
Lauren Phillips	Spring 2017 – May 2019 (Honors College Fellow)
Andrew Buzza	Spring 2017 – May 2018 (Magellan Scholar)
Matthew Whitsell	Summer 2017
Ishawn Francis	Summer 2017, Summer 2018
Colton Kostelnik	Summer 2017 – May 2018
Madeline Riese	Fall 2017 – May 2019
Julia Miles	Fall 2017 – Present
Madeline Rudge	April 2018 – May 2020
Taylor Bauman	August 2018 – Present (McNair Summer Fellow, Honors College Fellow)
Joakim ‘Kwame’ Kennedy	May 2019 – May 2020 (Honors College Fellow)
	<i>Magellan Scholars prepared an independent research proposal competitively evaluated for funding.</i>
	<i>Honors College Fellows prepared a research description evaluated for funding by the Honors College.</i>

High School

Brana Kalapathy	Fall 2008
Rachael McFarland	Summer 2009
Mason Thornley	Fall 2009 – Spring 2011
	<i>South Carolina State Science Fair 3rd place; presented at Stevens Institute of Technology Science Symposium</i>
Jas Guram	Summer 2010
Mia Ghoshroy	Summer 2011 – Spring 2012
Kristin Hardy	Summer 2012 (Governor’s School SPRI program)
Brittany Tuten	Summer 2016 (Governor’s School SPRI program)
Sonja Lochmuller	Fall 2016 (German exchange student, Governor’s School RESP program)
Amber Hazzard	Summer 2017 (Governor’s School SPRI program)
Alessio Anselm	Fall 2017 (German exchange student, Governor’s School RESP program)
Esha Hedge	Summer 2018 (Governor’s School SPRI program)

ACADEMIC AND PROFESSIONAL HONORS

2019	Samuel Litman Distinguished Professor Award, College of Engineering and Computing, Univ South Carolina
2016	National Semi-finalist, Council on Undergraduate Research – Goldwater Foundation Faculty Mentor Award
2015	Ada B. Thomas Outstanding Faculty Advisor, Univ South Carolina
2015 – 2017	Joe and Neva Gibbons Distinguished Teaching Award, Dept Chemical Engineering, Univ South Carolina
2014 – 2015	Inaugural Fellow, Pipeline for Academic Leaders, Univ South Carolina
2013	Biedenbach Service Award, College of Engineering and Computing, Univ South Carolina
2012	Governor’s Young Scientist Award for Excellence in Scientific Research, South Carolina Academy of Science
2011	Distinguished Undergraduate Research Mentor Award, Univ South Carolina
2010	Rising Star Award, Univ South Carolina
2007 - 2012	Faculty Early Career Development (CAREER) Award, NSF
2007	Excellence in Teaching Award, Univ South Carolina Mortar Board Society
2007	New Investigator Research Grant Award, Alzheimer’s Association
2005	Beginning Grant-In-Aid, American Heart Association
2002 - 2004	Postdoctoral Fellowship, American Heart Association Florida/Puerto Rico Affiliate
Fall 1999	Graduate School Academic Year Fellowship, Univ Kentucky
1998 - 1999	Dissertation Year Fellowship, Univ Kentucky
1998	Commonwealth Travel Award, Univ Kentucky
1995 - 1998	Graduate Research Fellowship Program (GRFP) Award, NSF
1994	Scholarship Award, Lexington Rotary Club

1994 Outstanding Chemical Engineering Junior, Univ Kentucky
 1994 Scholastic Achievement Award, American Institute of Chemical Engineers Student Chapter, Univ Kentucky
 1994 Omega Chi Epsilon Chemical Engineering Honors Society
 1993 Tau Beta Pi Engineering Honors Society
 1993 Golden Key National Honors Society
 1993 Lambda Sigma Sophomore Honorary
 1992 Alpha Lambda Delta Freshman Honorary
 1991 - 1995 Henry M. Lutes Engineering Scholarship, Univ Kentucky
 1991 - 1995 Chancellor Scholarship, Univ Kentucky

PROFESSIONAL SOCIETIES

The Adhesion Society
 American Chemistry Society (ACS)
 American Institute of Chemical Engineers (AIChE)
 Biomedical Engineering Society (BMES)
 Biophysical Society (BPS)
 Institute of Biological Engineering (IBE)
 Society for Biological Engineers (SBE)
 Society for Neuroscience (SfN)
 Society of Women Engineers (SWE)

PROFESSIONAL ACTIVITIES

2018, 2019 Women's Initiative's Committee, Fall Planning Committee, *AIChE Annual Meeting*
 2107, 2019 Session Mediator, Academic Careers Panel, *BMES Annual Meeting*, Phoenix, AZ
 2017, 2019 Panelist, Developing Your Grant Application, *SC INBRE Academic Leadership Summer Workshop*, Columbia, SC
 2014 - Present National Selection Committee, Barry M. Goldwater Scholarship
 2014 - Present External Advisory Board, Dept. of Chemical Engineering, Univ. of Kentucky
 2015 - 2018 Councilor-At-Large, IBE
 2016 Session Chair, Poster Session, *IBE Annual Meeting*, Greenville, SC
 2016 Abstract Review, *BMES Annual Meeting*, Minneapolis, MN
 2016 Advisory Board, Society of Physician Entrepreneurs
 2015 Session Chair, Fundamentals of Protein Folding in Diseases, *AIChE Annual Meeting*, Salt Lake City, UT
 2015 Panel Moderator, *Southeastern Biomedical Engineering Career Conference*, Raleigh, NC
 2014 - 2015 Program Organizing Chair, *IBE Annual Meeting*, St. Louis, MO
 2014 Session Chair, Fundamentals of Protein Folding in Diseases, *AIChE Annual Meeting*, Atlanta, GA
 2014 Panel Moderator, *Southeastern Biomedical Engineering Career Conference*, Atlanta, GA
 2014 Session Chair, Emerging Technologies for Biomedical and Disease Applications, *ACS Annual Meeting*, Dallas, TX
 2013 - 2014 Program Organizing Co-Chair, *IBE Annual Meeting*, Lexington, KY
 2013 Session Chair, Bioimaging and Diagnostics, *AIChE Annual Meeting*, San Francisco, CA
 2013 Session Chair, Intermolecular Interactions, *AIChE Annual Meeting*, San Francisco, CA
 2013 Session Chair, Poster Session, *IBE Annual Meeting*, Raleigh, NC
 2012 Session Chair, Biomolecular Engineering, *AIChE Annual Meeting*, Pittsburgh, PA
 2012 Program Organizing Committee, *IBE Annual Meeting*, Indianapolis, IN
 2012 Session Chair, Poster Session, *IBE Annual Meeting*, Indianapolis, IN
 2011 Session Chair, Bioimaging and Diagnostics, *AIChE Annual Meeting*, Minneapolis, MN
 2011 Session Chair, Biomolecular Engineering, *AIChE Annual Meeting*, Minneapolis, MN
 2011 Session Chair, Biology-Inspired Tissue and Cellular Engineering, *IBE Annual Meeting*, Atlanta, GA
 2010 Session Chair, NanoDiagnostics, *AIChE Annual Meeting*, Salt Lake City, UT
 2010 Session Chair, Bioimaging and Diagnostics, *AIChE Annual Meeting*, Salt Lake City, UT

2010	Session Chair, Cell Adhesion and Migration, <i>AIChE Annual Meeting</i> , Salt Lake City, UT
2010	Session Chair, Biology-Inspired Tissue and Cellular Engineering, <i>IBE Annual Meeting</i> , Cambridge, MA.
2009	Session Chair, Intracellular Processes, <i>AIChE Annual Meeting</i> , Nashville, TN
2009	Session Chair, Bioengineering Minisymposium, <i>Annual Meeting of the South Carolina Academy of Science</i> , Columbia, SC
2009	Session Chair, Biology-Inspired Tissue and Cellular Engineering, <i>IBE Annual Meeting</i> , Santa Clara, CA.
2008	Session Chair, Receptor-Mediated Phenomena, <i>AIChE Annual Meeting</i> , Philadelphia, PA
2008	Session Chair, Biology-Inspired Tissue and Cellular Engineering, <i>IBE Annual Meeting</i> , Chapel Hill, NC.
2007	Session Chair, Intracellular Processes, <i>AIChE Annual Meeting</i> , Salt Lake City, UT
2007	Session Chair, Neuroscience and Ophthalmology Applications, <i>South Carolina Bioengineering Summit</i> , Charleston, SC
2006	Session Chair, Disease Therapies and Diagnostics, <i>AIChE Annual Meeting</i> , San Francisco, CA
2005	Session Chair, Bioadhesion, <i>Annual Meeting of the Adhesion Society</i> , Mobile, AL
2000	Session Co-Chair, Adhesion and Motility of Metastatic Cells, <i>Experimental Biology</i> , San Diego, CA

GRANT REVIEW PANELS

2018, 2019	Ed and Ethel Moore Alzheimer's Disease Grant Program, Florida Dept of Health
2018	NIH IMST-10 (Small Business) Panel
2017, 2018	NSF, Biomaterials Panel
2017	Quebec Consortium for Drug Discovery (QCDM)
2015	NSF, NanoBioSensing Panel
2014-2016	Oak Ridge Associated Universities, Pennsylvania Department of Health final performance reviews
2014-Present	Congressional Barry M. Goldwater Scholarship National Review Panel
2008-2013	Alzheimer's Association
2008-2010, 2012	American Heart Association, Bioengineering Panel
2013	US Army Research Office, Life Sciences Division, Biochemistry Program
2013-2014	USC SOM, Research Development Fund
2012	Medical Research Council (United Kingdom)
2012	Missouri Spinal Cord Injuries Research Program
2012	University of South Carolina, ASPIRE I, Tracks 3/4
2011	NSF, Protein Aggregation, Folding, Expression, and Design
2011	NIH, Program Project (P01) Review Panel
2011	South Carolina Translational Research (SCTR) Pilot Project Review
2010	NSF, Research Experience for Undergraduates (REU)
2010	NSF, Biosensors
2010	NSF, Biomedical Engineering
2010	Alzheimer's Society (United Kingdom)
2010	Jeffers Memorial Trust
2007	NSF, Faculty Early Career Development (CAREER) Panel
2007	NSF, Nanoscience Exploratory Research (NER) Panel
2006	NSF, Integrated Graduate Research and Education (IGERT) Preliminary Proposal Panel
2006	Oak Ridge Associated Universities, Ralph E. Powe Junior Faculty Enhancement Award
2005, 2006	NIH, Cell Death and Injury in Chronic Neurodegeneration Study Section
2004	Suncoast Cardiovascular Research and Education Foundation

JOURNAL MANUSCRIPT REVIEWS

ACS Chemical Neuroscience; ACS Neuroscience; AIChE Journal; Analytical Biochemistry; BBA - Proteins and Proteomics; Biomacromolecules; Biointerfaces; Biopolymers; Brain Research; Crystal Research and Technology; Integrative Biology; Journal of Adhesion Science and Technology; Journal of Neurochemistry; Journal of Neuroimmunology; Journal of Biological Engineering; Journal of Theoretical Biology; Journal of Physical

Chemistry; Mathematical Biosciences; Nature Communications; Neurobiology of Aging; Neuroscience; Neuroscience Letters; Physical Review Letters; PlosOne; Small

UNIVERSITY ACTIVITIES

2020 – Present Advisory Committee, Instrumentation Resource Facility, Univ South Carolina School of Medicine

2019 Mentor, First Year Interest Group, Women in Engineering

2019 Member, Search Committee, Director, Cardiovascular Translational Research Center

2018 – 2019 Member, Project Lead the Way Advisory Board, Columbia High School

2018 Member, Search Committee, Director, Cardiovascular Translational Research Center

2017 – 2018 Member, Faculty Search Committee, Healthcare Transformations, College of Engineering and Computing

2017 – 2018 Member, Faculty Search Committee, Biomedical Engineering

2017, 2018 Member, Organizing Committee, USC Neuroscience Retreat

2017 – 2019 Faculty Advisor, American Physician Scientist Association

2017 – 2019 Organizer, Bioseparations Module, Adventures in Women in Engineering

2017 Panelist, Applying to Graduate School, Research: Next Steps to Success Workshop Series

2017 Member, Search Committee, Career Center Director, College of Engineering and Computing

2017 Chair, Ada B. Thomas Outstanding Advisor Selection Committee

2017, 2018 Member, Biedenbach Award Selection Committee, College of Engineering and Computing

2016 Session Mediator, Integrative Learning Through Undergraduate Research Panel, Provost Summit

2016 – Present Faculty Advisor, Alpha Eta Mu Beta, Biomedical Engineering Honor Society

2016 – 2018 Member, Ada B. Thomas Outstanding Advisor Selection Committee

2015 – 2018 Advisory Board, Healthy Brain Research Network

2015 Member, Search Committee, Dean, College of Engineering and Computing

2015 Speaker, Edison Lecture

2015 Faculty Speaker, First Night Carolina

2015, 2016 BIOS/CIOS Freshman Program, Engineering Faculty Speaker

2015 – Present Faculty Consultant, Tau Beta Pi Engineering Honorary

2014 Reviewer, Carolina and McNair Scholars Applications

2013 – 2015 Chair, Search Committee, COBRE/Biomedical Engineering Junior Faculty

2013 – 2014 Member, Search Committee, Chair, Department of Cell Biology and Anatomy

2013 Chair, Search Committee, Biomedical Engineering Laboratory Manager

2013 Member, Search Committee, Biomedical Engineering Administrative Coordinator

2013 Mentorship Panel, Provost Advisory Committee on Women’s Issues

2012 – 2013 Advisory Board, NSF ADVANCE Project

2012 – 2013 Editorial Board, *Caravel* Undergraduate Research Journal

2012 Member, Search Committee, Associate Dean, College of Engineering and Computing

2011 – 2013 Member, Search Committee, SmartState Endowed Chair in Tissue Engineering

2011 – 2018 Faculty Advisor, Alzheimer’s Foundation of America on Campus

2011 Judge, Graduate Student Day

2011 Judge, Morgan Newton Symposium

2011, 2012, 2013 Speaker, South Carolina STEPs to STEM Program

2010 – Present Member, Univ South Carolina Goldwater Scholarship Committee

2010 – Present Member, Graduate Committee, Biomedical Engineering

2010 – 2011 Member, Search Committee, Dean, South Carolina Honors College

2010 – 2011 Member, Faculty Search Committee, Biomedical Engineering

2010 Member, Search Committee, Chair, Chemical Engineering

2010 Panelist, Tenure and Promotion Panel, New Faculty Orientation

2010 Video interview, e-TV educational series

2009 – 2012 Member, Steering Committee, Women’s Faculty Organization

2009 – 2014 Member, Honors College Policy Council

2009, 2010	Panelist, Carolina and McNair Scholars Interviews
2008 – 2014	Member, Curriculum Assessment Committee, College of Engineering and Computing
2007, 2014 – 2019	Mock Class, Carolina and McNair Scholars Visitation Day
2007 – 2014	Chair, Undergraduate Committee, Biomedical Engineering
2007	Panelist, NSF CAREER Workshop
2006 – Present	Member, Advisory Board, Office of Undergraduate Research
2006 – Present	Member, Undergraduate Committee, Biomedical Engineering
2006 – Present	Mentor, 1 st Year Scholars Program
2006 – 2010	Classroom Presentation, Carolina Master Scholars Program, Bionanotechnology
2006 – 2007	College of Engineering and Computing Representative, Family Fund Advisory Board
2006	Judge, Discovery Day
2005 – 2011	Member, Committee for Undergraduate Student Recruitment, Chemical Engineering
2005 – 2007	Seminar Coordinator, Chemical Engineering
2005, 2006, 2007	Judge, South Carolina State Science and Engineering Fair
2005, 2006	Mock Class, Scholars Day
2005	Judge, Student Poster Competition, Aging Research Day, Medical Univ South Carolina/Univ South Carolina-Palmetto Health
2004 – 2010	Mentor, Women's Connections Mentoring Network, Women's Student Services
2004 – 2007	Member, Graduate Committee, Chemical Engineering
1998 – 1999	Graduate Student Representative, Advisory Committee for the President's Initiative on Undergraduate Education, Univ Kentucky
1997	Graduate Student Representative, Advisory Committee for the Selection of the Dean of the Graduate School, Univ Kentucky

PUBLICATIONS

Refereed Journal Articles

1. A.A. Bhopatkar, G. Ghag, L. M. Wolf, D.N. Dean, **M. A. Moss**, and V. Rangachari (2019) Cysteine-rich granulin-3 rapidly promotes amyloid- β fibrils in both redox states. *Biochemical Journal*, **476**(5): 859-873.
2. N. P. van der Munnik, **M. A. Moss**, and M. J. Uline (2019) Obstacles to translating the promise of nanoparticles into viable amyloid disease therapeutics. *Physical Biology*, **16**(2): 021002.
3. N. P. van der Munnik, M. S. J. Sajib, **M. A. Moss**, T. Wei, and M. J. Uline (2018) Determining the potential of mean force for amyloid- β dimerization: Combining self-consistent field theory with molecular dynamics simulation. *Journal of Chemical Theory and Computation*, **14**(5): 2696-2704.
4. L. M. Wolf, S. L. Servoss, and **M. A. Moss** (2017) Peptoids: Emerging therapeutics for neurodegeneration. *Journal of Neurology and Neuromedicine*, **2**(7): 1-5.
5. K. A. Moore, K. Pate, D. D. Soto-Ortega, S. Lohse, N. van der Munnik, M. Lim, K. S. Jackson, V. D. Lyles, L. Jones, N. Glassgow, V. M. Napumecheno, S. Mobley, M. J. Uline, R. Mahtab, C. J. Murphy, and **M. A. Moss** (2017) Influence of gold nanoparticle surface chemistry and diameter upon Alzheimer's disease amyloid- β protein aggregation. *Journal of Biological Engineering*, 11:5.
6. K. M. Pate, M. Rogers, J. W. Reed, N. P van der Munik, S. Z. Vance, **M. A. Moss** (2017) Anthoxanthin polyphenols attenuate A β oligomer-induced neuronal responses associated with Alzheimer's disease. *CNS Neuroscience and Therapeutics*, **23**: 135-144.
7. J. P. Turner, S. E. Chastain, D. Park, **M. A. Moss**, and S. L. Servoss (2017) Modulating amyloid- β aggregation: The effects of peptoid side chain placement and chirality. *Bioorganic and Medicinal Chemistry*, **25**: 20-26.
8. G. Ghag, L. M. Wolf, R. G. Reed, N. P. van der Munnik, C. Mundoma, **M. A. Moss**, and V. Rangachari (2016) Conformational dynamics of intrinsically disordered, cysteine-rich granulin-B. *Protein Engineering Design, and Selection*, **29**: 177-186.
9. D. N. Dean, K. M. Pate, **M. A. Moss**, and V. Rangachari (2016) Conformational dynamics of specific A β oligomers govern their ability to replicate and induce neuronal apoptosis. *Biochemistry*, **35**: 2238-2250.
10. M. Chakrabarti, A. J. McDonald, J. W. Reed, **M. A. Moss**, B. C. Das, S. K. Ray (2015) Molecular signaling mechanisms of natural and synthetic retinoids for inhibition of pathogenesis in Alzheimer's disease. *Journal of Alzheimer's Disease*, **50**: 335-352.

11. C. M. Johnson, K. M. Pate, Y. Shen, A. Viswanath, R. Tan, B. C. Benicewicz, **M. A. Moss**, and A. B. Greytak (2015) A methacrylate-based polymeric imidazole ligand yields quantum dots with low cytotoxicity and low nonspecific binding. *Journal of Colloid and Interface Science*, **458**: 310-314.
 A. Kumar, K. Pate, **M. Moss**, D. Dean, and V. Rangachari (2014) Self-propagative replication of A β oligomers suggests potential transmissibility in Alzheimer's disease. *PLOS ONE*, **9**: e111492.
12. N. E. Pryor, **M. A. Moss**, and C. E. Hestekin (2014) Capillary electrophoresis for the analysis of the effect of sample preparation on early stages of A β ₁₋₄₀ aggregation. *Electrophoresis*, **35**: 1814-1820.
13. J. P. Turner, T. Lutz-Rechtin, K. A. Moore, L. Rogers, O. Bhave, **M. A. Moss**, and S. L. Servoss (2014) Rationally designed peptoids prevent aggregation of amyloid-beta 40. *ACS Chemical Neuroscience*, **5**: 553-558.
14. N. E. Prior, **M. A. Moss**, and C. N. Hestekin (2012) Unraveling the early events of amyloid- β protein (A β) aggregation: Techniques for the determination of A β aggregation size. *International Journal of Molecular Sciences*, **13**: 3038-3072.
15. N. E. Pryor, J. A. Kotarek, **M. A. Moss**, and C. N. Hestekin (2011) Monitoring insulin aggregation via capillary electrophoresis. *International Journal of Molecular Sciences*, **12**: 9369-9388.
16. D. D. Soto-Ortega, B. P. Murphy, F. J. Gonzalez-Velasquez, K. A. Wilson, F. Xie, Q. Wang, and **M. A. Moss** (2011) Inhibition of amyloid- β aggregation by coumarin analogs can be manipulated by functionalization of the aromatic center. *Bioorganic and Medicinal Chemistry*, **19**: 2596-2602.
17. F. J. Gonzalez-Velasquez, J. W. Reed, J. W. Fuseler, E. E. Matherly, J. A. Kotarek, D. D. Soto-Ortega, and **M. A. Moss** (2010) Activation of brain endothelium by soluble aggregates of the amyloid- β protein involves nuclear factor- κ B. *Current Alzheimer's Research*, **8**: 91-94.
18. W. Zhang, K. Gilstrap, L. Wu, K. C. Remant Bahadur, **M. A. Moss**, Q. Wang, X. Lu, and X. He (2010) Synthesis and Characterization of thermally responsive pluronic F127-chitosan nanocapsules for controlled release and intracellular delivery of small molecules. *ACS Nanoscience*, **4**: 6747-6759.
19. F. J. Gonzalez-Velasquez, J. W. Reed, J. W. Fuseler, E. E. Matherly, J. A. Kotarek, D. D. Soto-Ortega, and **M. A. Moss** (2010) Soluble amyloid- β protein aggregates induce nuclear factor- κ B mediated upregulation of adhesion molecule expression to stimulate brain endothelium for monocyte adhesion. *Journal of Adhesion Science and Technology*, Invited Contribution for special issue on Adhesion and Interfacial Aspects of Cell Adhesion, **24**: 2105-2129.
20. J. A. Kotarek and **M. A. Moss** (2010) Impact of phospholipid bilayer saturation on amyloid- β aggregation intermediate growth: A quartz crystal microbalance analysis. *Analytical Biochemistry*, **399**: 30-38.
21. T. J. Davis, D. D. Soto-Ortega, J. A. Kotarek, F. J. Gonzalez-Velasquez, K. Sivakumar, L. Wu, Q. Wang, and **M. A. Moss** (2009) Comparative study of inhibition at multiple stages of amyloid- β self-assembly provides mechanistic insight. *Molecular Pharmacology*, **76**: 405-413.
 A. A. Reyes Barcelo, F. J. Gonzalez-Velasquez, and **M. A. Moss** (2009) Soluble aggregates of the amyloid- β protein are trapped by serum albumin to enhance amyloid- β activation of endothelial cells. *Journal of Biological Engineering* **3**:5.
22. F. J. Gonzalez-Velasquez, J. A. Kotarek, and **M. A. Moss** (2008) Soluble aggregates of the amyloid- β protein selectively stimulate permeability in human brain microvascular endothelial monolayers. *Journal of Neurochemistry* **107**: 466-477.
23. J. A. Kotarek, K. C. Johnson, and **M. A. Moss** (2008) Quartz crystal microbalance analysis of growth kinetics for aggregation intermediates of the amyloid- β protein. *Analytical Biochemistry* **378**: 15-24.
24. F. J. Gonzalez-Velasquez and **M. A. Moss** (2008) Soluble aggregates of the amyloid- β protein activate endothelial monolayers for adhesion and subsequent transmigration of monocyte cells. *Journal of Neurochemistry* **104**: 500-513.
25. M. R. Nichols, **M. A. Moss**, D. K. Reed, J. H. Hoh, and T. L. Rosenberry (2005) Amyloid- β aggregates formed at nonpolar interfaces differ from amyloid- β protofibrils produced in aqueous buffers. *Microscopy Research and Technique* **67**: 164-174.
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Patents

1. S. Servoss, **M. A. Moss**, and L. M. Wolf (Submitted, 2019) Peptoid to attenuate inflammatory response. US Patent Application No.: 16/524,107. Washington, DC: US Patent and Trademark Office.
2. L. M. Wolf and **M. A. Moss** (Submitted, 2019) Dot blot box and use thereof. US Patent Application No: 16/357,681. Washington, DC: US Patent and Trademark Office.
3. S. Servoss, **M. A. Moss**, and J. P. Turner (2018) Peptoids and methods for treating Alzheimer's disease. US Patent No. 10,167,315. Washington, DC: US Patent and Trademark Office.
4. S. Servoss and **M. A. Moss** (2014) Peptoids and methods for treating Alzheimer's disease. US Patent No. 8,809,275. Washington, DC: US Patent and Trademark Office.

Conference Proceedings/Abstracts (presenter is underlined)

Includes national and regional conferences and presentations by myself or graduate students

1. B. Watson, F. Gonzalez, and **M. Moss** (2019) Concept for a cell-based biosensor for early Alzheimer's disease detection. *Southeastern Regional Meeting of the American Chemical Society, Savannah, GA, Oct 20-22*.
2. L. Wolf, S. Servoss, and **M. Moss** (2019) Investigation of a peptoid inhibitor of RAGE expression and inflammatory response. *BMES Annual Meeting, Philadelphia, PA, Oct 16-19*. Poster.
3. H. Holt, E. Moore, M. Riese, J. Miles, F. Gonzalez, and **M. Moss** (2019) Amyloid- β interaction with P-glycoprotein at the blood-brain barrier: A novel therapeutic target in Alzheimer's disease. *BMES Annual Meeting, Philadelphia, PA, Oct 16-19*. Oral Presentation.
4. B. Watson, F. Gonzalez, and **M. Moss** (2019) Concept for a cell-based biosensor for early Alzheimer's disease detection. *BMES Annual Meeting, Philadelphia, PA, Oct 16-19*. Poster.
5. H. Holt, E. Moore, M. Riese, M. Faucett, F. Gonzalez, **M. A. Moss** (2019) Binding and transport of amyloid- β by P-glycoprotein: A novel therapeutic target in Alzheimer's disease. *Biophysical Society 63rd Annual Meeting, Baltimore, MA, Mar 2-6*: 2109-Pos.
- A. A Bhopatkar, G. Ghag, L. M. Wolf, D. N. Dean, M. A. Moss, and V. Rangachari (2019) Cysteine-rich granulin-3 rapidly promotes aggregation of amyloid- β in both redox states. *Biophysical Society 63rd Annual Meeting, Baltimore, MA, Mar 2-6*: 1739-Pos.
6. H. Holt, E. Moore, M. Riese, M. Faucett, F. Gonzalez, **M. Moss** (2018) Transport of amyloid- β across the blood-brain barrier by P-glycoprotein: A novel therapeutic target in Alzheimer's disease. *AIChE Annual Meeting, Pittsburgh, PA, Oct 28 – Nov 2*: 190n.

7. L. M. Wolf, S. Servoss, **M. Moss** (2018) Peptoid JPT1a reduces RAGE expression and attenuates inflammatory response: A potential AD therapeutic. *AICHE Annual Meeting, Pittsburgh, PA, Oct 28 – Nov 2*: 200d.
8. H. Holt, E. Moore, M. Riese, M. Faucett, F. Gonzalez, **M. Moss** (2018) Transport of amyloid- β across the blood-brain barrier by P-glycoprotein: A novel therapeutic target in Alzheimer's disease. *BMES Annual Meeting, Atlanta, GA, Oct 17-20*: P-FRI-782.
9. L. M. Wolf, S. Servoss, **M. Moss** (2018) An achiral peptoid reduces RAGE expression and attenuates inflammatory response: A potential AD therapeutic. *BMES Annual Meeting, Atlanta, GA, Oct 17-20*: P-FRI-693.
10. H. Holt, E. Moore, M. Riese, M. Faucett, F. Gonzalez, **M. Moss** (2018) Transport of amyloid- β across the blood-brain barrier by P-glycoprotein: A novel therapeutic target in Alzheimer's disease. *American Chemical Society Fall National Meeting, Boston, MA, Aug 19-23*: BIOL-61.
11. L. M. Wolf, S. Servoss, **M. Moss** (2018) Peptoid JPT1a reduces RAGE expression and attenuates inflammatory response: A potential AD therapeutic. *Biophysical Society 62nd Annual Meeting, San Francisco, CA, Feb 17-21*: 2303-Pos.
12. H. Holt, E. Moore, F. Gonzalez, **M. Moss** (2017) Enhancing P-glycoprotein expression and transport toward a therapy for Alzheimer's disease. *Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, Nov 7-11*.
13. R. J. Geiser, S. Chastain, and **M. Moss** (2017) Regulation of Alzheimer's disease associated mRNA expression by green tea catechins and black tea theaflavins. *Alzheimer's Association International Conference, London, England, Jul 16-20*: P1-093.
14. H. Holt, E. Moore, F. Gonzalez, **M. Moss** (2017) Maximizing P-glycoprotein expression and transport in the presence of therapeutic compounds. *AICHE Annual Meeting, Minneapolis, MN, Oct 29 – Nov 3*: 191dn.
15. N. van der Munnik, K. Mingle, T. Wei, J. Lauterbach, M. J. Uline, and **M. Moss** (2017) Polyacid-functionalized gold nanoparticles as an amyloid- β inhibitor platform. *AICHE Annual Meeting, Minneapolis, MN, Oct 29 – Nov 3*: 357f.
16. S. Z. Vance, R. Hall, J. Crawford, G. L. Booth, C. N. Hestekin, and **M. Moss** (2017) Understanding the role of glycine in amyloid protein aggregation through rationally designed protein sequences. *AICHE Annual Meeting, Minneapolis, MN, Oct 29 – Nov 3*: 570c.
17. X. Redmon, C. Hestekin, **M. A. Moss** (2017) Improving the understanding of early stage amyloid aggregation using microchannel electrophoresis. *AICHE Annual Meeting, Minneapolis, MN, Oct 29 – Nov 3*: 323f.
18. S. Z. Vance and **M. Moss** (2017) Understanding the role of chain flexibility in amyloid protein aggregation through rationally designed protein sequences. *Annual Meeting of Institute of Biological Engineers, Salt Lake City, UT, Mar 30-Apr 1*.
19. S. Z. Vance, X. Redmon, R. Hall, C. Moore, G. Booth, C. Hestekin, and **M. Moss** (2017) Understanding the role of chain flexibility in amyloid protein aggregation through rationally designed protein sequences. *Biophysical Society 61st Annual Meeting, New Orleans, LA, Feb 11-15*: 264-Pos.
20. N. P. van der Munnik, T. Wei, **M. Moss**, and M. J. Uline (2017) Statistical thermodynamic modeling of early A β oligomer formation. *Biophysical Society 61st Annual Meeting, New Orleans, LA, Feb 11-15*: 1791-Pos.
21. R. J. Geiser, S. Chastain, and **M. Moss** (2017) Regulation of BACE1 mRNA expression in Alzheimer's disease by green tea catechins and black tea theaflavins. *Biophysical Society 61st Annual Meeting, New Orleans, LA, Feb 11-15*: 1781-Pos.
22. H. Holt, E. Moore, F. J. Gonzalez-Velasquez, and **M. Moss** (2016) Maximizing P-glycoprotein expression in the presence of certain therapeutic compounds. *AICHE Annual Meeting, San Francisco, CA, Nov 13-18*: 228er.
23. K. A. Moore, K. Pate, D. Soto-Ortega, S. Lohse, N. van der Munnik, M. Lim, K. Jackson, V. Lyles, L. Jones, N. Glasgow, V. Napumecheno, S. Mobley, M. J. Uline, R. Mahtab, C. Murphy and **M. A. Moss** (2016) Influence of gold nanoparticle surface chemistry and diameter upon Alzheimer's disease amyloid- β protein aggregation. *AICHE Annual Meeting, San Francisco, CA, Nov 13-18*: 391c.
24. **M. Moss**, X. Redmon, and C. N. Hestekin (2016) Improving the understanding of early stage amyloid aggregation using Microchannel electrophoresis *AICHE Annual Meeting, San Francisco, CA, Nov 13-18*: 192g.

25. N. P. van der Munnik, S. Sajib, T. Wei, **M. A. Moss**, and M. J. Uline (2016) Statistical Thermodynamic Modeling of Early Amyloid- β Oligomer Formation: Explicit and Implicit Incorporation of Hydrogen Bonding in a Self-Consistent Field Framework. *AIChE Annual Meeting, San Francisco, CA, Nov 13-18: 717a*.
26. E. P. Gatzke, K. Catalfomo, **M. A. Moss**, and L. Wolf (2016) Automated Spatial Analysis of NF κ B in Multispectral Images of Cerebrovascular Endothelial Cells. *AIChE Annual Meeting, San Francisco, CA, Nov 13-18: 253bx*.
27. N. van der Munnik, T. Wei, **M. A. Moss**, M. Uline (2016) Statistical thermodynamic modeling of early A β oligomer formation: Incorporation of solvation in a self-consistent field framework. *Southeastern Regional Meeting of the American Chemical Society, Columbia, SC, Oct 23-26: 611*.
28. H. Holt, E. Moore, M. Faucett, F. J. Gonzalez, **M. A. Moss** (2016) Transport of amyloid- β across the blood brain barrier by P-glycoprotein. *Southeastern Regional Meeting of the American Chemical Society, Columbia, SC, Oct 23-26: 728*.
29. S. Z. Vance, C. Moore, and **M. A. Moss** (2016) Olive oil antioxidants modulate amyloid- β oligomer toxicity associated with Alzheimer's disease. *BMES Annual Meeting, Minneapolis, MN, Oct 5-8: Th-143*.
30. K. M. Pate and **M. A. Moss** (2016) Hydroxylated anthroxanthins reduce amyloid- β -induced neuronal responses associated with Alzheimer's diseases. *National IDEa Symposium of Biomedical Research Excellence (NISBRE), Washington DC, Jun 26-28*.
31. S. Z. Vance, C. Moore, K. M. Pate, and **M. A. Moss** (2016) Soy isoflavones modulate amyloid oligomers associated with Alzheimer's disease. *Annual Meeting of Institute of Biological Engineers, Greenville, SC, Apr 7-9*.
32. S. E. Chastain, K. M. Pate, and **M. A. Moss** (2016) Multi-target therapeutic potential of green tea catechins and black tea theaflavins toward A β -induced signal pathways involved in Alzheimer's disease. *Biophysical Society 60th Annual Meeting, Los Angeles, CA, Feb 27-Mar 2: 2721-Pos*.
33. Y. Wang, **M. A. Moss** (2016) Effect of resveratrol and derivatives on interactions between Alzheimer's disease associated A β protein oligomers and lipid membranes: A quartz crystal microbalance analysis. *Biophysical Society 60th Annual Meeting, Los Angeles, CA, Feb 27-Mar 2: 1273-Pos*.
- B. N. Hestekin, S. Paracha, J. Kurtz, and **M. A. Moss** (2015) Analysis of amyloid oligomers using microchannel electrophoresis. *AIChE Annual Meeting, Salt Lake City, UT, Nov. 8-13: 101c*.
34. K. Pate, N. van der Munnik, and **M. A. Moss** (2015) Quercetin and metabolites reduce amyloid- β -induced apoptosis associated with Alzheimer's disease. *AIChE Annual Meeting, Salt Lake City, UT, Nov. 8-13: 543b*.
35. S. Z. Vance, C. Moore, K. Pate, and **M. A. Moss** (2015) Soy isoflavones target amyloid- β oligomers associated with Alzheimer's disease. *AIChE Annual Meeting, Salt Lake City, UT, Nov. 8-13: 620z*.
36. H. Holt, E. Moore, M. Faucett, F. Gonzalez, and **M. A. Moss** (2015) Transport of amyloid- β across the blood-brain barrier by P-glycoprotein. *AIChE Annual Meeting, Salt Lake City, UT, Nov. 8-13: 622b*.
37. N. van der Munnik, T. Wei, **M. A. Moss**, and M. J. Uline (2015) Statistical thermodynamics of amyloid- β oligomerization. *AIChE Annual Meeting, Salt Lake City, UT, Nov. 8-13: 713g*.
38. N. van der Munnik, D. Soto-Ortega, **M. Moss**, and M. Uline (2015) Rational design of surface modified gold nanoparticles for the modulation of amyloid- β aggregation. *BMES Annual Meeting, Tampa, FL, Oct 7-10: OP-Fri-1-3*.
39. K. Pate, M. Rogers, and **M. Moss** (2015) Quercetin and metabolites reduce A β -induced apoptosis associated with Alzheimer's disease. *BMES Annual Meeting, Tampa, FL, Oct 7-10: OP-Fri-3-9*.
40. H. Holt, E. Moore, M. Faucett, F. Gonzalez, and **M. Moss** (2015) Transport of amyloid- β across the blood-brain barrier by P-glycoprotein. *BMES Annual Meeting, Tampa, FL, Oct 7-10: OP-Sat-2-2*.
41. S. Chastain, K. Pate, and **M. Moss** (2015) Attenuation of A β -induced apoptosis by tea polyphenols via modulation of A β oligomerization. *BMES Annual Meeting, Tampa, FL, Oct 7-10: P-Th-295*.
42. Y. Wang and **M. Moss** (2015) Inhibition of A β aggregation elongation by piceatannol: A quartz crystal microbalance analysis. *BMES Annual Meeting, Tampa, FL, Oct 7-10: P-Fr-569*.
43. S. Vance, C. Moore, and **M. Moss** (2015) Olive oil phenylethanoids modulate A β aggregation through targeting of oligomeric species. *BMES Annual Meeting, Tampa, FL, Oct 7-10: P-Fr-593*.
44. S. E. Chastain and **M. Moss** (2015) Green and black tea polyphenols mechanistically inhibit amyloid- β aggregation in Alzheimer's disease. *Biophysical Society 59th Annual Meeting, Baltimore, MD, Feb 7-11: 1793-Plat*.

45. Y. Wang and **M. A. Moss** (2015) The resveratrol derivative picetannol alters the conformation of Alzheimer's disease associated A β protein aggregates. *Biophysical Society 59th Annual Meeting, Baltimore, MD, Feb 7-11*: 226-Pos.
46. K. Pate, M. Rogers, and **M. A. Moss** (2015) The ability of polyphenols to reduce A β -induced apoptosis associated with Alzheimer's disease. *Biophysical Society 59th Annual Meeting, Baltimore, MD, Feb 7-11*: 331-Pos.
47. L. M. Wolf, J. P. Turner, S. Servoss and **M. A. Moss** (2015) The effect of peptoids on A β aggregation and NF- κ B activation in Alzheimer's disease. *Biophysical Society 59th Annual Meeting, Baltimore, MD, Feb 7-11*: 334-Pos.
48. S. Z. Vance, K. Pate, C. Moore, and **M. A. Moss** (2015) Phenylethanoids can modulate amyloid- β aggregation associated with Alzheimer's disease. *Biophysical Society 59th Annual Meeting, Baltimore, MD, Feb 7-11*: 1096-Pos.
49. N. Munnik, **M. A. Moss**, and M. J. Uline (2015) Rational design of surface modified nanoparticles for modulation of amyloid- β aggregation. *Biophysical Society 59th Annual Meeting, Baltimore, MD, Feb 7-11*: 267-Pos.
- C. N. Dean, A. Kumar, K. M. Pate, **M. A. Moss**, and V. Rangachari (2015) Self-propagative replication of amyloid- β oligomers in Alzheimer's disease. *Biophysical Society 59th Annual Meeting, Baltimore, MD, Feb 7-11*: 332-Pos.
50. Y. Wang and **M. A. Moss** (2014) The natural stilbenoid resveratrol and its derivatives' inhibitory capabilities toward Alzheimer's disease associated amyloid- β protein aggregation. *AICHe Annual Meeting, Atlanta, GA, Nov 16-21*: 631c.
51. S. Z. Vance, K. Pate, and **M. A. Moss** (2014) Phenylethanoids can modulate amyloid- β aggregation associated with Alzheimer's disease. *AICHe Annual Meeting, Atlanta, GA, Nov 16-21*: 588a.
52. K. Pate, M. Rogers, J. Clegg, and **M. A. Moss** (2014) Quercetin and derivatives reduce nuclear factor- κ B activation associated with Alzheimer's disease through inhibition of both amyloid- β oligomer formation and reactive oxygen species. *AICHe Annual Meeting, Atlanta, GA, Nov 16-21*: 636c.
53. N. van der Munnik and **M. A. Moss** (2014) Tannic acid inhibits amyloid- β aggregation with specificity for an oligomer species. *AICHe Annual Meeting, Atlanta, GA, Nov 16-21*: 631e.
54. S. Chastain, K. Pate, and **M. A. Moss** (2014) Green and black tea polyphenols mechanistically inhibit amyloid- β aggregation in Alzheimer's disease. *AICHe Annual Meeting, Atlanta, GA, Nov 16-21*: 3746e.
55. J. P. Turner, L. Wolf, T. Lutz-Rechtin, **M. A. Moss**, and S. Servoss (2014) Effects of rationally designed peptoids on amyloid- β 1-40. *AICHe Annual Meeting, Atlanta, GA, Nov 16-21*: 388c.
- D. N. Hestekin, **M. A. Moss**, E. Pryor, and J. Kurtz (2014) Microchannel Electrophoresis for analysis of amyloid protein oligomers. *AICHe Annual Meeting, Atlanta, GA, Nov 16-21*: 37a.
56. S. Chastain, K. Pate, and **M. A. Moss** (2014) Green and black tea polyphenols mechanistically inhibit amyloid- β aggregation in Alzheimer's disease. *BMES Annual Meeting, San Antonio, TX, Oct 22-25*: P-Fri-275.
57. K. Pate, M. Rogers, J. Clegg, and **M. A. Moss** (2014) Quercetin and derivatives reduce nuclear factor- κ B activation associated with Alzheimer's disease. *BMES Annual Meeting, San Antonio, TX, Oct 22-25*: OP-Fri-3-4.
58. Y. Wang and **M. A. Moss** (2014) Resveratrol and its derivatives as potential inhibitors of A β peptide aggregation. *BMES Annual Meeting, San Antonio, TX, Oct 22-25*: P-Fri-284.
59. J. P. Turner, T. Lutz-Rechtin, K. Moore, **M. Moss**, and S. Servoss (2014) Peptoids that minimize the peptide KLVFF prevent aggregation of A β 1-40. *Annual Meeting of the American Chemistry Society, Dallas, TX, Mar 16-20*, BIOT 0370.
60. J. W. Reed, K. Pate, J. Clegg, M. Rogers, and **M. A. Moss** (2014) Hydroxylated flavones reduce Alzheimer's disease amyloid- β oligomerization and physiological activity. *Annual Meeting of the American Chemistry Society, Dallas, TX, Mar 16-20*, BIOT 0168.
61. K. Moore, L. M. Wolf, J. P. Turner, S. Servoss, and **M. Moss** (2014) The effect of peptoids on A β aggregation and NF- κ B activation in Alzheimer's disease. *Annual Meeting of Institute of Biological Engineers, Lexington, KY, Mar 6-8*.
62. L. M. Wolf, K. Moore, J. P. Turner, S. Servoss, and **M. Moss** (2013) The effect of peptoids on A β aggregation and NF- κ B activation in Alzheimer's disease. *AICHe Annual Meeting, San Francisco, CA, Nov*

- 3-8: 544b.
63. K. M. Pate, M. Rogers, J. Clegg, and **M. A. Moss** (2013) Ability of polyphenols to attenuate Alzheimer's disease by reducing nuclear factor- κ B activation. *AICHE Annual Meeting, San Francisco, CA, Nov 3-8*: 683d.
 64. J.-H. Tseng, Y. Wang, and **M. Moss** (2013) Anthracyanidins modulate amyloid- β aggregation and attenuate reactive oxygen species associated with Alzheimer's disease pathogenesis. *AICHE Annual Meeting, San Francisco, CA, Nov 3-8*: 544e.
 65. H. M. Kayello, D. P. Visco, J.-H. Tseng, D. Soto-Ortega, C. Suo, J. Gao, S. Chastain, B. P. Murphy, M. Lim, F. Xie, J. Chapman, Q. Wang, and **M. Moss** (2013) A novel computer-aided molecular approach using the signature molecular descriptor to design non-intuitive amyloid- β aggregation inhibitors. *AICHE Annual Meeting, San Francisco, CA, Nov 3-8*: 6b.
 66. C. N. Hestekin, E. Pryor, and **M. Moss** (2013) Microchannel electrophoresis analysis of amyloid protein aggregation. *Annual Meeting of the American Electrophoresis Society, San Francisco, CA, Nov 3-8*: 34c.
 67. K. Moore, L. M. Wolf, and **M. Moss** (2013) The effect of peptoids on A β aggregation and NF- κ B activation in Alzheimer's disease. *BMES Annual Meeting, Seattle, WA, Sep 25-28*, P-Fri-A-253.
 68. K. M. Pate, M. Rogers, J. Clegg, and **M. A. Moss** (2013) Ability of polyphenols to attenuate Alzheimer's disease by reducing nuclear factor- κ B activation. *BMES Annual Meeting, Seattle, WA, Sep 25-28*: OP-Sat-I-16.
 69. J.-H. Tseng, J. Chapman, and **M. Moss** (2013) Selective dihydropyridines inhibit amyloid- β aggregation and alter the morphology of amyloid- β aggregates associated with Alzheimer's disease. *BMES Annual Meeting, Seattle, WA, Sep 25-28*: OP-Sat-I-18.
 70. S. E. Chastain, K. Pate, and **M. Moss** (2013) Conformation-dependent inhibitory binding of green tea catechins to amyloid- β in Alzheimer's disease. *BMES Annual Meeting, Seattle, WA, Sep 25-28*: P-Sat-A-68.
 71. J. W. Reed, K. Pate, J. Clegg, M. Rogers, and **M. A. Moss** (2013) Hydroxylated flavones reduce amyloid- β oligomerization and physiological activity, *Annual Meeting of Institute of Biological Engineers, Raleigh, NC, Mar 7-9*.
 72. J.-H. Tseng, J. Chapman, and **M. A. Moss** (2012) Dihydropyridines inhibit amyloid- β aggregation and alter the morphology of amyloid- β fibrils associated with Alzheimer's disease, *AICHE Annual Meeting, Pittsburgh, PA, Oct 28-Nov 2*: 518d.
 73. J. W. Reed, K. Pate, J. Clegg, M. Rogers, and **M. A. Moss** (2012) Hydroxylated flavones reduce amyloid- β induced calcium influx, *AICHE Annual Meeting, Pittsburgh, PA, Oct 28-Nov 2*: 760e.
 74. K. A. Moore, D. Soto-Ortega, M. Lim, K. Pate, K. Jackson, S. Lohse, R. Mahtab, C. Murphy and M.A Moss (2012) Inhibition of Alzheimer's-associated A β aggregation by gold nanoparticles, *AICHE Annual Meeting, Pittsburgh, PA, Oct 28-Nov 2*: 214d.
 - E. Pryor, C. N. Hestekin and **M. Moss** (2012) The use of microchannel electrophoresis to detect early stages of amyloid-beta aggregation, *AICHE Annual Meeting, Pittsburgh, PA, Oct 28-Nov 2*: 185g.
 75. D. P. Visco, J.-T. Tseng, D. Soto-Ortega, C. Suo, J. Gao, S. Chastain, B. P. Murphy, M. Lim, F. Xie, J. Chapman, Q. Wang, and **M. Moss** (2012) An innovative computer-aided molecular design approach to the rational design of novel small molecule inhibitors of amyloid- β aggregation, *AICHE Annual Meeting, Pittsburgh, PA, Oct 28-Nov 2*: 601i.
 76. J.-T. Tseng, J. Chapman, and **M. A. Moss** (2012) Naphthalamide analogs inhibit amyloid- β aggregation and acetylcholinesterase activity associated with Alzheimer's disease, *BMES Annual Meeting, Atlanta, GA, Oct 24-27*: P-Sat-A-264.
 77. J. W. Reed, K. Pate, J. Clegg, M. Rogers, and **M. A. Moss** (2012) Hydroxylated flavones alter amyloid- β oligomer formation, *BMES Annual Meeting, Atlanta, GA, Oct 24-27*: P-Th-B-236.
 78. K. A. Moore, D. Soto-Ortega, M. Lim, K. Pate, K. Jackson, S. Lohse, R. Mahtab, C. Murphy and **M.A Moss** (2012) Inhibition of Alzheimer's-associated A β aggregation by gold nanoparticles, *BMES Annual Meeting, Atlanta, GA, Oct 24-27*: P-Th-A-49.
 79. S. Chastain and **M. Moss** (2012) Mechanistic inhibition of amyloid-beta aggregation in Alzheimer's disease by green tea catechin, *BMES Annual Meeting, Atlanta, GA, Oct 24-27*: P-Sat-A-91.
 80. B. L. Bungart, J C.-M. Lee, and **M. Moss** (2012) Hydroxyl-dependent effects of isoflavones on amyloid- β aggregation, *BMES Annual Meeting, Atlanta, GA, Oct 24-27*: P-Sat-A-276.

81. J. R. Clegg, K. M. Pate, S. Z. Vance, J. W. Reed, and **M. A. Moss** (2012) Phenolic acids alter amyloid- β oligomerization and consequent cellular responses, *BMES Annual Meeting, Atlanta, GA, Oct 24-27*: P-Sat-A-296.
- F. J. Gonzalez-Valesquez, J. W. Reed, J. W. Fuseler, J. A. Kotarek, D. D. Soto-Ortega, and **M. A. Moss** (2012) Activation of endothelium in Alzheimer's brain involves soluble aggregates of the amyloid- β protein. *27th International Conference of Alzheimer's Disease International, London, UK, Mar 7-10*: OC007.
82. K. A. Wilson, D. D. Soto-Ortega, M. Lim, K. S. Jackson, R. Mahtab, C. Murphy, and **M. A. Moss** (2012) Gold nanospheres inhibit Alzheimer's disease associated amyloid- β protein aggregation. *Annual Meeting of Institute of Biological Engineers, Indianapolis, IN, Mar 3-5*.
83. K. A. Wilson, M. Lim, K. Jackson, R. Mahtab, and **M. A. Moss** (2011) Mechanistic inhibition of Alzheimer's associated A β aggregation by gold nanoparticles. *AIChE Annual Meeting, Minneapolis, MN, Oct 16-21*: 157f.
84. J.-T Tseng, C. Suo, D. Davda, J. Gao, A. Terry, J Chapman, and **M. A. Moss** (2011) Acetylcholinesterase inhibitors can interfere in amyloid- β self-assembly: Potential for multi-target drugs for Alzheimer's disease. *AIChE Annual Meeting, Minneapolis, MN, Oct 16-21*: 216e.
85. E. Pryor, **M. A. Moss**, and C. N. Hestekin (2011) The use of microchannel electrophoresis to understand amyloid aggregation. *AIChE Annual Meeting, Minneapolis, MN, Oct 16-21*: 424a.
86. J. W. Reed and **M. A. Moss** (2011) Soluble amyloid- β aggregates modify expression of claudin-3 in a model of the blood-brain barrier. *AIChE Annual Meeting, Minneapolis, MN, Oct 16-21*: 565e.
87. K. A. Wilson, M. Lim, K. Jackson, R. Mahtab, and **M. A. Moss** (2011) Mechanistic inhibition of Alzheimer's associated A β aggregation by gold nanoparticles. *BMES Annual Meeting, Hartford, CT, Oct 13-16*.
88. J. A. Kotarek and **M. A. Moss** (2011) Analysis and inhibition of amyloid- β protein aggregation at a biological interface: A quartz crystal microbalance study. *Biochemical Engineering XVI, Seattle, WA, Jul 26-30*.
89. J. A. Kotarek, D. D. Soto-Ortega, and **M. A. Moss** (2011) Inhibition of amyloid- β protein assembly is dependent upon environmental conditions: A QCM biosensor analysis. *Annual Meeting of Institute of Biological Engineers, Atlanta, GA, Mar 3-5*.
90. J. W. Reed, F. J. Gonzalez-Velasquez, J. W. Fuseler, E. E. Matherly, J. A. Kotarek, D. D. Soto-Ortega, and **M. A. Moss** (2010) Optical image analysis facilitates an understanding of amyloid- β aggregate activation of brain microvascular endothelial cells. *AIChE Annual Meeting, Salt Lake City, UT, Nov 7-12*: 386f.
91. D. D. Soto-Ortega, S. Paolini, A. Alkilany, R. Mahtab, C. Murphy, and **M. A. Moss** (2010) Negatively charged gold nanoparticles can inhibit the formation of Alzheimer's disease amyloid- β protein aggregates in a mechanistic-specific fashion. *AIChE Annual Meeting, Salt Lake City, UT, Nov 7-12*: 701d.
92. J. A. Kotarek, D. Soto-Ortega, Q. Wang, and **M. A. Moss** (2010) Inhibition of amyloid- β protein assembly is dependent upon environmental conditions: A quartz crystal microbalance analysis. *AIChE Annual Meeting, Salt Lake City, UT, Nov 7-12*: 750c.
93. J.-H. Tseng, S. Guram, and **M. A. Moss** (2010) Calcium channel blockers can attenuate amyloid- β self-assembly: Potential as dual-action drugs for Alzheimer's disease. *AIChE Annual Meeting, Salt Lake City, UT, Nov 7-12*: 47c.
94. C. Suo, J.-H. Tseng, L. Wu, Q. Wang, and **M. A. Moss** (2010) Polyphenols do not dissociate Alzheimer's disease amyloid- β fibrils but bind fibril to interrupt fibril-thioflavin T interactions. *AIChE Annual Meeting, Salt Lake City, UT, Nov 7-12*: 575c.
95. E. Pryor, **M. A. Moss**, and C. Hestekin (2010) Electrophoretic separation of amyloid proteins via capillary electrophoresis. *Annual Meeting of the American Electrophoresis Society, Salt Lake City, UT, Nov 7-12*: 198f.
96. J. A. Kotarek and **M. A. Moss** (2010) Analysis of amyloid- β protein assembly at a biological interface using a quartz crystal microbalance. *Proceedings of the 14th Annual Meeting of IBE, Cambridge, MA, Mar 3-6*.
97. T. J. Davis, D. D. Soto-Ortega, J. A. Kotarek, F. J. Gonzalez-Velasquez, K. Sivakumar, L. Wu, Q. Wang, and **M. A. Moss** (2009) Comparative study of inhibition at multiple stages of amyloid- β self-assembly provides mechanistic insight. *AIChE Annual Meeting, Nashville, TN, Nov 8-13*: 485ak.
- G. J. Gonzalez-Velasquez, J. W. Reed, E. E. Matherly, J. A. Kotrek, D. D. Soto-Ortega, and **M. A. Moss** (2009) Amyloid- β protein aggregates selectively activate brain endothelium for adhesion via nuclear factor- κ B-

- mediated upregulation of cell surface adhesion molecules. *AIChE Annual Meeting, Nashville, TN, Nov 8-13*: 649f.
98. J. A. Kotarek and **M. A. Moss** (2009) Quartz crystal microbalance analysis of amyloid- β protein assembly at a biological interface. *AIChE Annual Meeting, Nashville, TN, Nov 8-13*: 230d.
 99. D. D. Soto-Ortega, B. P. Murphy, T. J. Davis, Q. Wang, and **M. A. Moss** (2009) Inhibition of fibril formation by the amyloid- β Protein Involved in Alzheimer's disease. *AIChE Annual Meeting, Nashville, TN, Nov 8-13*: 694g.
 100. E. Pryor, C. N. Hestekin, and **M. A. Moss** (2009) The use of capillary electrophoresis to monitor the early stages of insulin aggregation. *AIChE Annual Meeting, Nashville, TN, Nov 8-13*: 457d.
 101. E. Pryor, C. N. Hestekin, and **M. A. Moss** (2009) Capillary electrophoresis as a tool to monitor the early stages of insulin aggregation. *Annual Meeting of the American Electrophoresis Society, Nashville, TN, Nov 8-13*: 334h.
 102. F. J. Gonzalez-Velasquez, J. W. Reed, E. E. Matherly, J. A. Kotrek, D. D. Soto-Ortega, and **M. A. Moss** (2009) Activation of endothelium in Alzheimer's disease brain involves soluble aggregates of the amyloid- β protein. *BMES Annual Meeting, Pittsburgh, PA, Oct 7-10*: PS 9A-19.
 103. D. D. Soto-Ortega, B. P. Murphy, T. J. Davis, Q. Wang, and **M. A. Moss** (2009) Inhibition of fibril formation by the amyloid- β protein involved in Alzheimer's disease. *BMES Annual Meeting, Pittsburgh, PA, Oct 7-10*: PS 9A-131.
 104. J. A. Kotarek and **M. A. Moss** (2009) Quartz crystal microbalance analysis of amyloid- β protein assembly at a biological interface. *BMES Annual Meeting, Pittsburgh, PA, Oct 7-10*: PS 9A-132.
 105. D. D. Soto-Ortega, T. J. Davis, J. A. Kotarek, F. J. Gonzalez-Velasquez, K. Sivakumar, L. Wu, Q. Wang, and **M. A. Moss** (2009) Study of inhibition at multiple stages of amyloid- β self-assembly provides mechanistic insight. *Biochemical Engineering XVI, Burlington, VT, Jul 5-9*.
 106. F. J. Gonzalez-Velasquez, J. W. Reed, J. W. Fuseler, E. E. Matherly, J. A. Kotarek, D. D. Soto-Ortega, and **M. A. Moss** (2009) Activation of endothelium in Alzheimer's disease brain involves soluble aggregates of the amyloid- β protein. *Biochemical Engineering XVI, Burlington, VT, Jul 5-9*.
 107. D. D. Soto-Ortega, B. Murphy, and **M. A. Moss** (2009) Inhibition of Alzheimer's disease amyloid- β fibril formation. *Annual Meeting of the South Carolina Academy of Science, Columbia, SC, Apr 14-16*.
 108. J. A. Kotarek, K. C. Johnson, and **M. A. Moss** (2009) Quartz crystal microbalance analysis of amyloid- β protein assembly at a biological interface. *Annual Meeting of the South Carolina Academy of Science, Columbia, SC, Apr 14-16*.
 109. F. J. Gonzalez-Velasquez, J. A. Kotarek, and **M. A. Moss** (2009) Activation of endothelium in Alzheimer's disease brain involves soluble aggregates of the amyloid- β protein. *Annual Meeting of the South Carolina Academy of Science, Columbia, SC, Apr 14-16*.
 110. J. A. Kotarek, K. C. Johnson, and **M. A. Moss** (2009) Quartz crystal microbalance analysis of amyloid- β protein assembly at a biological interface. *Proceedings of the 13th Annual Meeting of IBE, Santa Clara, CA, Mar 19-21*: #048.
 111. F. J. Gonzalez-Velasquez, J. A. Kotarek, and **M. A. Moss** (2009) Activation of endothelial adhesion in Alzheimer's disease involves soluble aggregates of the amyloid- β protein. *Proceedings of the 32nd Annual Meeting of the Adhesion Society, Savannah, GA, Feb 15-19*: 15-17.
 112. J. A. Kotarek, K. C. Johnson, and **M. A. Moss** (2008) Quartz crystal microbalance analysis of growth kinetics for aggregation intermediates of the amyloid- β protein. *AIChE Annual Meeting Conference Proceedings, Philadelphia, PA, Nov 8-13*: 587e.
 113. F. J. Gonzalez-Velasquez, J. A. Kotarek, and **M. A. Moss** (2008) Activation of endothelium in Alzheimer's disease brain involves soluble aggregates of the amyloid- β protein. *AIChE Annual Meeting Conference Proceedings, Philadelphia, PA, Nov 8-13*: 670d.
 114. J. A. Kotarek, K. C. Johnson, and **M. A. Moss** (2008) Quartz crystal microbalance analysis of growth kinetics for aggregation intermediates of the amyloid- β protein. *Proceedings of the 12th Annual Meeting of IBE, Chapel Hill, NC, Mar 6-9*: #048.
 115. F. J. Gonzalez and **M. A. Moss** (2008) Selective activation of endothelial monolayers by soluble aggregates of the amyloid- β protein involved in Alzheimer's disease: Potential for exploitation in a cell-based biosensor. *2008 South Carolina IDeA Network of Biomedical Research Excellence Symposium, Charleston, SC, Jan 17-18*.

116. J. A. Kotarek and **M. A. Moss** (2007) Detection of amyloid- β aggregate growth using a quartz crystal microbalance. *AICHE Annual Meeting Conference Proceedings, Salt Lake City, UT, Nov 4-9*: 516ay.
- A. A. Reyes Barcelo, F. J. Gonzalez, and **M. A. Moss** (2007) Influence of serum albumin on Alzheimer's amyloid- β protein assembly and activity. *AICHE Annual Meeting Conference Proceedings, Salt Lake City, UT, Nov 4-9*: 242b.
117. F. J. Gonzalez, A. A. Reyes Barcelo, and **M. A. Moss**. (2007) Amyloid- β induced endothelial-monocyte interactions involved in Alzheimer's disease. *South Carolina Bioengineering Summit, Charleston SC, Jun 14-15*.
118. F. J. Gonzalez, A. A. Reyes Barcelo, and **M. A. Moss** (2007) Amyloid- β induced endothelial-monocyte interactions involved in Alzheimer's disease. *Experimental Biology, Washington DC, Apr 28 – May 2, FASEB Journal 21*: 872.6.
119. J. A. Kotarek, K. C. Johnson, and **M. A. Moss** (2007) Quantification of surface-specific assembly of the amyloid- β protein involved in Alzheimer's disease using a quartz crystal microbalance. *Proceedings of the 12th Annual Meeting of IBE, St. Louis, MO, Mar 30 – Apr 1*: #078.
120. J. A. Kotarek and **M. A. Moss** (2006) Detection of active amyloid- β species using a quartz crystal microbalance. *AICHE Annual Meeting Conference Proceedings, San Francisco, CA, Nov 12-17*: 182d.
121. F. J. Gonzalez, A. A. Reyes Barcelo, and **M. A. Moss** (2006) Amyloid- β induced endothelial-monocyte interactions involved in cerebral amyloid angiopathy and Alzheimer's disease. *AICHE Annual Meeting Conference Proceedings, San Francisco, CA, Nov 12-17*: 338f.
122. F. J. Gonzalez, A. A. Reyes Barcelo, and **M. A. Moss** (2006) Amyloid- β induced endothelial-monocyte interactions involved in Alzheimer's disease. *BMES Annual Fall Meeting Conference Proceedings, Chicago, IL, Oct 12-14*: #112.
123. F. J. Gonzalez and **M. A. Moss**. (2006) Amyloid- β -endothelial interactions involved in cerebral amyloid angiopathy and Alzheimer's disease. *GA/SC Neuroscience Consortium, Charleston SC, Apr 8*.
124. **M. A. Moss** and C. Zayas-Ortiz (2005) Identification of inhibitory binding faces of β -amyloid fibril formation. *AICHE Annual Meeting Conference Proceedings, Cincinnati, OH, Oct 30 - Nov 4*: 52b.
125. **M. A. Moss**. (2005) Role of A β fibril formation in augmented monocyte recruitment to the cerebrovascular endothelium. *MUSC-PH Aging Research Day, Columbia SC, Apr 8*.
126. **M. A. Moss**. (2004) Targeting A β fibril formation in Alzheimer's disease. *South Carolina Bioengineering Colloquium, Columbia SC, Oct 21-22*.
127. **M. A. Moss** (2005) Role of A β fibril formation in augmented monocyte recruitment to cerebrovascular endothelium. *Proceedings of the 28th Annual Meeting of the Adhesion Society, Mobile, AL, Feb 19-22*: 83-85.
128. M. R. Nichols, **M. A. Moss**, D. K. Reed, W.-L. Lin, R. Mukhopadhyay, J. Hoh, and T. L. Rosenberry (2002) Growth of β -amyloid(1-40) protofibrils by monomer elongation and lateral association. Characterization of distinct products by light scattering. *FASEB Summer Research Conference, Amyloids and Other Abnormal Protein Folding Processes, Snowmass, CO, Jun 15-20*.
129. **M. A. Moss**, M. R. Nichols, D. K. Reed, and T. L. Rosenberry (2001) Effect of monoclonal antibodies on A β fibril formation. *Experimental Biology, Orlando, FL, Mar 30 - Apr 1, FASEB Journal 15*.
130. **M. Moss** and K. Anderson (2000) Adhesion vs. lodging in cancer cell metastasis. *Experimental Biology, San Diego, CA, Apr 15-18, FASEB Journal 14*.
131. K. W. Anderson and **M. Moss** (2000) Role of cell adhesion in cancer metastasis. *Proceedings of the 23rd Annual Meeting of the Adhesion Society, Myrtle Beach, SC, Feb 20-23*.
132. **M. A. Moss**, S. Zimmer, and K. W. Anderson (1999) Effect of shear stress on the adhesion of human breast cancer cells to endothelial monolayers. *AICHE Annual Meeting Conference Proceedings, Dallas, TX, Oct 31-Nov 5*.
133. **M. A. Summers**, E. S. Leman, S. Zimmer, and K. W. Anderson (1998) Examination of the role of TNF- α stimulation in cancer cell adhesion using two assay types. *AICHE Annual Meeting Conference Proceedings, Miami, FL, Nov 15-20*.
134. **M. A. Summers**, K. W. Anderson, and S. Zimmer (1997) Effect of TNF- α on cancer cell adhesion and metastatic potential. *BMES Annual Fall Meeting, San Diego, CA, Oct 2-5, Annals of Biomedical Engineering S-37*.

INVITED TALKS

1. Seminar, Department of Chemical and Biomedical Engineering, University of South Florida. Alzheimer's disease and inflammation: Opportunities for diagnostics and therapies. Oct 7, 2020.
2. Invited Talk, University of South Carolina School of Medicine Instrumentational Research Facility Core Research Symposium. Protein aggregation in Alzheimer's disease: Biophysical properties and cellular pathogenesis. Jun 15, 2017.
3. Seminar, Department of Chemical Engineering, University of Rhode Island. Alzheimer's disease and protein aggregation: Biophysical properties predict cellular pathogenesis. Apr 13, 2017.
4. Invited Talk, AIChE Annual Meeting, Bio/Nano/Interfacial Phenomena. Influence of gold nanoparticle surface chemistry and diameter upon Alzheimer's disease amyloid- β protein aggregation. Nov 15, 2016.
5. Invited Talk, Five Points Rotary Club. Engineering insights into Alzheimer's disease. Nov 4, 2016.
6. Seminar, Department of Chemistry and Biochemistry, University of South Carolina. Alzheimer's disease and protein aggregation: Biophysical properties predict cellular pathogenesis. Nov 1, 2016.
7. Seminar, Institute for Applied Life Sciences, University of Massachusetts Amherst. Alzheimer's disease and protein aggregation: Biophysical properties predict cellular pathways. May 31, 2016.
8. Invited talk, Healthy Brain Research Network Forum. Dietary factors associated with attenuation of Alzheimer's disease. Dec 9, 2015.
9. Invited talk, SCBIO Annual Meeting. Preparing the Life Science Workforce: Biomedical Engineering. Nov 6, 2015. (Presented jointly with M. LeBerge, Clemson Univ.)
10. Seminar, Department of Chemical Engineering, University of Arkansas. The role of amyloid- β protein in Alzheimer's disease: Medical insight from engineering tools. Mar 12, 2014.
11. Seminar, Department of Chemical Engineering, University of Akron. Soluble A β aggregates in Alzheimer's disease. Sept 19, 2013.
12. Seminar, Department of Chemistry and Biochemistry, University of Southern Mississippi. Soluble A β aggregates in Alzheimer's disease. Apr 19, 2013.
13. Plenary Address, Annual Meeting of the South Carolina Academy of Science. Engineering Insights into Alzheimer's Disease. April 13, 2013.
14. Seminar, Chemical and Biological Engineering, Polytechnic Institute of New York University. Soluble amyloid- β protein aggregates in Alzheimer's disease. Apr 20, 2012.
15. Seminar, Biological Engineering, University of Missouri. Soluble amyloid- β protein aggregates in Alzheimer's disease. Nov 8, 2011.
16. Seminar, Center of Teaching Excellence, University of South Carolina. Integrative learning through undergraduate research. Sept 19, 2011.
17. Seminar, Geriatric Grand Rounds, Richland Memorial Hospital. Soluble amyloid- β protein aggregates in Alzheimer's disease. Apr 6, 2011.
18. Seminar, Chemical Engineering, University of Alabama. Soluble amyloid- β protein aggregates in Alzheimer's disease. Mar 14, 2011.
19. Seminar, School of Medicine, University of South Carolina. Activation of endothelium in Alzheimer's disease brain involves soluble aggregates of the amyloid- β protein. Sept 20, 2010.
20. Session talk, Advances in Studies of Protein Aggregation and Stability, Biochemical Engineering XVI. Study of inhibition at multiple stages of amyloid- β self-assembly provides mechanistic insight. Jul 8, 2009.
21. Seminar, Department of Chemistry, Biochemistry, Physics, and Geology, Winthrop University. Soluble amyloid- β aggregation intermediates in Alzheimer's disease. Jun 24, 2009.
22. Seminar, Department of Chemical and Biomolecular Engineering, North Carolina State University. Soluble amyloid- β aggregation intermediates in Alzheimer's disease. Sept 29, 2008.
23. Seminar, Department of Chemical and Materials Engineering, University of Kentucky. Soluble amyloid- β aggregation intermediates in Alzheimer's disease. Sept 24, 2008.
24. Seminar, College of Pharmacy, University of South Carolina. Soluble amyloid- β aggregation intermediates in Alzheimer's disease. Sept 9, 2008.
25. Seminar, Center for Bioelectronics, Biosensors, and Biochips, Clemson University. Soluble amyloid- β aggregation intermediates in Alzheimer's disease. Aug 20, 2008.
26. Seminar, Department of Chemical Engineering, University of Arkansas. Soluble amyloid- β aggregation intermediates in Alzheimer's disease. Apr 24, 2008.

27. Seminar, Department of Chemical Engineering, Tennessee Technological University. Growth and inhibition of amyloid- β aggregation intermediates in Alzheimer's disease. Mar 27, 2008.
28. Seminar, Department of Chemical and Biomolecular Engineering, University of Tennessee. Soluble amyloid- β aggregation intermediates in Alzheimer's disease. Dec 4, 2007
29. Seminar, Department of Chemical Engineering, University of Puerto Rico Mayaguez. Soluble amyloid- β aggregation intermediates in Alzheimer's disease. Nov 27, 2007
30. Seminar, Biochemistry Seminar Series, University of South Carolina. Amyloid- β /endothelial interactions involved in cerebral amyloid angiopathy and Alzheimer's disease. May 11, 2006.
31. Seminar, Department of Chemical and Materials Engineering, University of Kentucky. The role of amyloid- β fibril formation in Alzheimer's disease and cerebral amyloid angiopathy. Oct 18, 2005.
32. Seminar, Biomedical Science Seminar Series, University of South Carolina School of Medicine. Role of A β fibril formation in Alzheimer's disease and cerebral amyloid angiopathy. Mar 28, 2005.
33. Seminar, Geriatrics Noon Conference, Palmetto Richland Memorial Hospital. Role of A β fibril formation in Alzheimer's disease and cerebral amyloid angiopathy. Mar 16, 2005.

FUNDING

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| Jan 2020 – Dec 2022 | <p>Research Experiences for Undergraduates, National Science Foundation
 “REU site: Engineering medical advances at the interface of experiments and computation”
 Amount: \$360,000 Role: Principal Investigator
 Administer a program that provides a 10-week research experience for 10 undergraduate students in which students will work in experimental-computational collaborative teams</p> |
| Sept 2019 – Aug 2022 | <p>National Science Foundation, Major Resource Instrumentation Grant
 “Acquisition of the NanoFrazor”
 Amount: \$756,705 Role: Co-Principal Investigator
 Acquire the NanoFrazor Explorer system from SwissLitho, a thermal scanning probe lithography tool based on heated atomic force microscopy (AFM) tip technology</p> |
| Sept 2019 – Aug 2020 | <p>National Science Foundation, Engineering Research Centers
 “Planning Grant: Engineering Research Center for Health Care Transformation (ERC-HCT)”
 Amount: \$92,579 Role: Co-Principal Investigator
 Develop an engineering research center that will reengineering delivery of healthcare through a deep convergent approach that integrates information technology, systems engineering, social sciences, medical science, and health informatics</p> |
| Apr 2019 – Mar 2020 | <p>Greenville Health System, Health Sciences Center, Transformative Seed Grant
 “Biomarkers of adverse reaction to surgical implants: Proof of concept”
 Amount: \$19,991 Role: Principal Investigator
 Characterize the cytokine expression patterns within blood from a cohort of 20 patients following exposure to biomaterial implants, and distinguish between patients with successful outcomes and adverse reactions following surgery</p> |
| Sept 2016 – Sept 2019 | <p>Division of Materials Research, National Science Foundation
 “Rational design of surface modified nanoparticles for modulation of amyloid protein aggregation”
 Amount: \$330,000 Role: Principal Investigator
 Couple theory and experiment to understand interactions between amyloid protein and nanoparticles of varying size, surface chemistry, and surface charge to develop a rational design platform for nanoparticle inhibitors of amyloid protein aggregation.</p> |
| Nov 2015 – Apr 2016 | <p>Institute for the Advancement of Healthcare, University of South Carolina
 “Biomarkers of adverse reaction to surgical implants”
 Amount: \$25,000 Role: Principal Investigator
 Characterize the cytokine expression patterns for patient blood following exposure to biomaterial implants, and distinguish between patients with successful outcomes and adverse reactions following surgery</p> |

Jul 2015 – Jun 2018 Biotechnology, Biochemical, and Biomass Engineering, National Science Foundation
 “Study of amyloid protein oligomerization using microchannel electrophoresis”
 Amount: \$600,000 Role: Principal Investigator
 Develop a custom microchannel electrophoresis system capable of separating individual oligomer populations to elucidate the effect of changes in key amino acid sequence characteristics of amyloid proteins on the size and conformation of oligomers

Jul 2015 – Jun 2018 R15, National Institute of Aging, National Institutes of Health
 “Determining the mechanisms governing transmissibility among amyloid- β oligomers”
 Amount: \$444,529 Role: Co-PI
 Use *in vitro* biophysical methods to determine the mechanism and fidelity of propagation reactions, and determine how biophysical differences/similarities manifest in cellular function within both primary neuronal and primary endothelial cells

July 2013 – June 2014 South Carolina, EPSCoR
 “SAN: Mechanistic insight into the inhibition of Alzheimer’s associated aggregation by polyphenols”
 Amount: \$10,000 Role: Principal Investigator
 Characterize the mechanism by which a select group of plant polyphenols intervenes within the pathogenic process of A β aggregation associated with Alzheimer’s disease

Sept 2012 – May 2017 COBRE, National Institutes of Health
 “COBRE: Center for dietary supplements and inflammation”
 Subproject: Insights into anti-inflammatory capabilities of plant polyphenols for treatment of Alzheimer’s disease
 Amount: \$1,007,157 Role: Project Investigator
 Define the role of polyphenols in inhibiting attenuating Alzheimer’s disease via their actions as antioxidants and inhibitors of protein aggregation

May 2012 – Aug 2013 ASPIRE II, South Carolina Research Foundation
 “Brain inflammation: Diet-induced obesity and novel anti-inflammatory therapeutics”
 Amount: \$100,000 Role: Co-Investigator
 Determine whether chronic inflammatory damage to the CNS results in long-term cellular, epigenetic/immune and cognitive alterations that can be blocked by innovative early treatment with anti-inflammatory natural products

Apr 2010 – Mar 2013 Research Experiences for Undergraduates, National Science Foundation
 “REU site: Biomolecular and biomechanical interactions”
 Amount: \$300,000 Role: Principal Investigator
 Administer a program that provides a 10-week research experience for 10 undergraduate students, including laboratory research, enhanced learning activities, and social activities

Sept 2009 – Aug 2010 Pilot Study Grant, Complementary and Alternative Medicine (CAM) Center, University of South Carolina School of Medicine
 “Insight into the action of polyphenols in the treatment of Alzheimer’s disease”
 Amount: \$10,000 Role: Principal Investigator
 Compare the role of polyphenols in inhibiting A β aggregation and attenuating inflammatory responses elicited by A β

Apr 2007 – Mar 2012 Faculty Early Career Development Program (CAREER), National Science Foundation
 “Amyloid fibril formation in bulk solution and on supported phospholipid bilayers”
 Amount: \$400,000 Role: Principal Investigator
 Utilize inhibitors of A β aggregation to ascertain the contributions of different growth mechanisms both in bulk solution and upon the surface of phospholipid bilayers.
 Graduate Research Supplement of \$81,590 additionally funded for 2009-10, 2011-12
 Research Experience for Undergraduates Supplement of \$9,500 funded for 2011-12

Oct 2007 – Sept 2009 New Investigator Research Grant, Alzheimer’s Association
“Characterization of membrane compositions that promote amyloid- β assembly”
Amount: \$100,000 Role: Principal Investigator
Determine the role that AD-related changes in brain membrane composition have upon
A β assembly rates and neurotoxicity

Oct 2007 – Oct 2010 Research at Undergraduate Institutions (RUI), National Science Foundation
“Surface-engineered nanoparticles to inhibit protein aggregation”
Amount: \$329,115 (\$79,920 Moss budget) Role: Co-Investigator
Characterize interactions between surface-modified gold nanoparticles and A β protein
toward the interruption of A β aggregate assembly.

Aug 2007 – Feb 2008 Target Faculty Funding, South Carolina IDEA Networks of Biomedical Research
Excellence (INBRE)
“Detection of active forms of the amyloid- β protein using a cell-based biosensor for early
diagnosis of Alzheimer’s disease”
Amount: \$30,000 Role: Principal Investigator
Examine the possibility that stimulation of endothelial monolayer permeability by A β
aggregates can be exploited for use in an endothelial cell-based biosensor.

Jul 2005 – Jun 2007 Beginning Grant-in-Aid, American Heart Association Mid-Atlantic Affiliate
“A β fibril formation processes and vascular damage associated with cerebral amyloid
angiopathy”
Amount: \$132,000 Role: Principal Investigator
Identify interactions between A β and vascular endothelial cells associated with
inflammatory responses.

May 2005 – Jun 2006 Research and Productive Scholarship, University of South Carolina
“Involvement of endothelial receptors in A β -augmented adhesion and vascular
degeneration”
Amount: \$19,000 (\$18,000 Moss budget) Role: Principal Investigator
Characterize the involvement of cell surface receptors in the A β -stimulated adhesion of
monocytes to endothelial monolayers.

Jul 2002 – Jun 2004 Postdoctoral Fellowship, American Heart Association Florida/Puerto Rico Affiliate
“Inhibition of β -amyloid fibril formation”
Amount: \$70,000 Role: Principal Investigator

Jun 2002 – Dec 2002 Pilot Project Grant, Mayo Clinic Jacksonville
“Inhibition of β -amyloid fibril formation”
Amount: \$30,000 Role: Principal Investigator