

CURRICULUM VITAE
Mary Sharon Stack, Ph.D.

Current Address: University of Notre Dame
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Personal: Married (Matthew J. Ravosa, Ph.D)
2 children (Dominick deStaic Ravosa, 1998; Luca Jordan Ravosa, 2000)

Current Position:
Professor of Chemistry and Biochemistry
Scientific Director, Harper Cancer Research Institute

Education:
Bachelor of Science, Biochemistry (1981) - Clemson University, Clemson, SC
Fulbright Scholar in Biology (1982/3) - Universität Bonn, Bonn, Federal Republic of Germany
Master of Science, Biomedical Sciences/Biochemistry (1985) - East Tennessee State University, Johnson City, TN; Master's Thesis: *Effects of Ozone on Alpha-1-Proteinase Inhibitor and Alpha-1-Antichymotrypsin Structure and Function: Evidence for Free Radical Involvement.* D.A. Johnson, thesis advisor
Doctor of Philosophy, Biochemistry (1989) - University of Louisville, Louisville, KY; Doctoral Dissertation: *Purification and Kinetic Comparison of Synovial Collagenase and Gelatinase.* R.D.Gray, dissertation advisor
Post-Doctoral Research Associate (1989-91) - Duke University Medical Center, Durham, NC, Department of Pathology, laboratory of S. V. Pizzo

Honors and Affiliations:
1978 Alpha Lambda Delta National Freshman Honor Society, Clemson University
1978-80 Delta Phi Alpha National German Honor Society, Clemson University
1980 Badische Award for Distinguished Achievement in German, Clemson University
1982-83 Fulbright Scholarship for Graduate Study Abroad, Bonn, West Germany
1984- Sigma Xi, Scientific Research Society
1985-89 University Fellow, University of Louisville
1989 Graduate Dean's Citation, University of Louisville
1995 - American Association for Cancer Research
1995 - American Society for Biochemistry and Molecular Biology
1997 - American Association for the Advancement of Science
1999 - International Proteolysis Society (Council Member, 11/01-10/05)
2001 - American Society for Matrix Biology
2002- Metastasis Research Society
2008 Mulligan Endowed Professor of Cancer Research, University of Missouri

Professional Experience:
1981 Laboratory Technician, Department of Microbiology, Clemson University, Clemson, SC

- 1984 Laboratory Research Assistant, Department of Biochemistry, East Tennessee State University, Johnson City, TN
- 1985 Teaching Assistant, Department of Biochemistry, University of Louisville, Louisville, KY
- 1987 Instructor, Natural Sciences Department, Indiana University Southeast, New Albany, IN
- 1989 Post-Doctoral Research Associate, Department of Pathology, Duke University Medical Center, Durham, NC, (laboratory of S.V. Pizzo) April 1989 - July 1991
- 1991 Assistant Research Professor, Department of Pathology, Duke University Medical Center, Durham, NC, August 1991 - September 1994
- 1994 Assistant Professor, Department of Obstetrics and Gynecology, Division of Gynecologic Oncology, Northwestern University Medical School, Chicago, IL, October 1994-August 2000
- 1994 Adjunct Assistant Professor, Department of Cell and Molecular Biology, Northwestern University Medical School, Chicago, IL, October 1994- August 2000
- 2000 Associate Professor, Department of Obstetrics and Gynecology, Northwestern University Medical School, Chicago, IL
- 2000 Adjunct Associate Professor, Department of Cell and Molecular Biology, Northwestern University Medical School, Chicago, IL
- 2001 Associate Professor, Department of Cell and Molecular Biology, Northwestern University Medical School, Chicago, IL
- 2001 Adjunct Associate Professor, Department of Obstetrics and Gynecology, Northwestern University Medical School, Chicago, IL
- 2006 Professor, Department of Cell and Molecular Biology, Northwestern University Feinberg Medical School, Chicago, IL
- 2007 Professor and Vice-Chair for Research, Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, MO
- 2007 Adjunct Professor of Medical Pharmacology and Physiology, University of Missouri School of Medicine, Columbia, MO
- 2007
- present Adjunct Professor of Cell and Molecular Biology, Northwestern University Feinberg Medical School, Chicago, IL
- 2011 Professor of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, IN
- 2011 Adjunct Professor of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, MO

Grant Review Service:

- Rivkin Foundation for Ovarian Cancer Research, 2008-present
- National Institutes of Health, Tumor Progression and Metastasis Study Section, AdHoc reviewer 02/08
- National Institutes of Health, Tumor Microenvironment Study Section, AdHoc reviewer 10/07
- Marsha Rivkin Center for Ovarian Cancer Research, Reviewer, 2007 - present
- National Institutes of Health, Member Tumor Progression and Metastasis Study Section (formerly Pathology B), 2003-2006
- National Institutes of Health, Member Pathology B Study Section 2002-'03, (Ad Hoc 2000-1)
- National Institute of Dental and Craniofacial Research Special Study Section on Proteomics in Head & Neck Cancer, Special Emphasis Panels, 2003-7
- National Institutes of Health/National Cancer Institute Program Project Review Panels, 1995-2002
- National Institutes of Health, Ad Hoc Reviewer (R13 grants), 1996 - 1997
- National Institutes of Health, Ad Hoc Reviewer, Lung Biology and Pathology Study Section, 1999
- National Institutes of Health, Ad Hoc Reviewer, Metabolic Pathology Study Section, 1999

U.S. Army Medical Research and Materiel Command Breast Cancer Research Program (Department of Defense); Cell & Tissue Biology and Pathobiology Review Panels; 1994-2004, 2008-8
U.S. Army Medical Research and Materiel Command (Department of Defense) Prostate Cancer Research Program; Pathobiology Review Panel, 1998-2004
U.S. Army Medical Research and Materiel Command (Department of Defense) Ovarian Cancer Research Program; Cell Biology Review Panel, 1998-2005
U.S. Army Medical Research and Materiel Command Breast Cancer Research Program Knowledge Harvest; Subject Matter Expert, 1998-1999
National Science Foundation, Ad Hoc Reviewer in Molecular Biochemistry, March, 1995
International Human Frontier Science Program, Reviewer, 1995 - 2000
Breast Cancer Research Program, Univ. of California, Tumor Biology and Pathogenesis Study Sections, 1996-2002; 2005-8
Israel Science Foundation, Reviewer, 1997, 2002
Veterans Administration Career Development Award Reviewer, 1999-2000
U.S. Civilian Research and Development Foundation for the Independent States of the Former Soviet Union (funded by US State Dept., NIH and NSF), Reviewer, 2000
Natural Sciences and Engineering Research Council of Canada (NSERC) and the Canadian Institutes of Health Research (CIHR) Collaborative Health Research Projects (CHRP) Program grant reviewer, 2010

Journal Review Service:

Editorial Boards:

Cancer Research, Jan. 2001 – Dec. 2012
Journal of Biological Chemistry, June 2003 - June 2008
Biochemical Journal, 2005 - present

Reviewer:

Nature, Journal of Biological Chemistry, Biochemistry, Biochemical Journal, Cancer Research, Journal of Cell Biology, Journal of Cell Science, International Journal of Cancer, Biochimica et Biophysica Acta, Journal of the National Cancer Institute, Journal of Cellular Physiology, Journal of Pathology, Journal of Dental Research, Clinical and Experimental Metastasis, Matrix Biology, Gynecologic Oncology, American Journal of Pathology, Cancer Detection and Prevention, International Journal of Biochemistry and Cell Biology, Gene, Connective Tissue Research, American Journal of Obstetrics and Gynecology, Oncogene, Science Translational Medicine

Other Service:

External Advisory Board - Walther Cancer Research Center, University of Notre Dame - 2000
External Advisory Board - Karmanos Cancer Institute and the Meyer L. Prentis Comprehensive Cancer Center at Wayne State University, 2003 - present
International Scientific Committee, VIIIth International Workshop on the Molecular and Cellular Biology of Plasminogen Activation, Jackson Hole, WY, Sept. 2001
Scientific Advisory Board, Angiomics Corp., Research Triangle Park, NC, 2000-2002
National Cancer Institute Gynecologic Oncology Program - Progress Review Group, June 2001
International Proteolysis Society - elected to Council November 2001 - November 2005
American Association for Cancer Research Special Conference on *Proteolysis, Extracellular Matrix and Cancer* (Oct. 2002, Hilton Head, SC) - Organizing Committee

Previous Research Grant Support:

National Institutes of Health Individual National Research Service Award # 1F32 HL08382, "Plasminogen Interactions with the Extracellular Matrix", **M. Sharon Stack, P.I.**, S.V. Pizzo, Mentor, Oct. 1990 - Apr. 1992

Armstrong Fellow in Cancer Research, Duke University Comprehensive Cancer Center, Sept. 1991-1992

National Institutes of Health Supplement to Duke University Cancer Center Core Grant #CA 14236, “Matrix Regulation of Ovarian Carcinoma-Associated Proteinase Secretion and Activity”, **M. Sharon Stack, P.I.** Oct. 1992 - Sept. 1993

National Institutes of Health Shannon Award for Research Grant #CA58900, “Matrix Regulation of Metastasis-Associated Proteinases”, **M. Sharon Stack**, Principal Investigator. Oct. 1993- May 1993

National Institutes of Health Research Grant #RO1 CA58900, “Matrix Regulation of Metastasis-Associated Proteinases”, **M. Sharon Stack, P.I.** June 1994 - Sept. 1999

National Institutes of Health Research Grant #RO1 CA71875, “Plasminogen-Angiostatin Converting Enzyme”, G.A. Soff, Principal Investigator; **M.S. Stack, Co-Investigator.** Apr.1997- Mar. 2001

National Institute of Dental Research Oral Cancer Center Pilot Grant from #P50 CA11921, “Multifunctional Interaction of uPA/R and Integrins in Oral Cancer”, **M.S. Stack, P.I.** Dec. 1999 - Nov.2001

National Cancer Institute #U01 CA85133 “National Ovarian Cancer Early Detection Program”, D.A. Fishman, PI, **M.S. Stack Co-Investigator.** September 1999 - August 2004

National Institute of Dental Research Grant # PO1 DE12328, “Junctions, Cytoskeleton & Matrix of the Oral Epithelium”, J.C.R. Jones, Principal Investigator; **M.S. Stack, Project 2 Leader.** July 1997 - May 2007

National Institutes of Health Research Grant #R01 CA 86984, “Regulation of Ovarian Cancer Proteinases”; **M.Sharon Stack, Principal Investigator.** July 2000 - June 2005

National Institutes of Health Research Grant # R01 CA85870, “ Interaction of uPA/R and Integrins in Oral Cancer”, **M. Sharon Stack, Principal Investigator.** July 2001 - August 2005

National Institutes of Health "Research Supplement to Promote Diversity in Health-Related Research" awarded to 2RO1 CA86984 to support graduate training of Natalie M. Moss, July 2006 - April 2010.

National Institutes of Health Research Grant #R01CA90492 “Contributions of Activated EGF Receptor to Ovarian Cancer Metastasis”, Laurie Hudson - Principal Investigator, **M.S. Stack, Co-Investigator.** August 2002 - July 2007

Mizzou Advantage Network Grant “Symposium and Faculty Workshop on Integrin Signaling in Physiology and Disease”, A. Chandrasekhar, Principal Investigator, **M. Sharon Stack, Co-Investigator,** April – Oct. 2010

Current Research Grant Support:

National Institutes of Health Research Grant #2R01 CA 086984, “Regulation of Ovarian Cancer Proteinases”; **M. Sharon Stack, Principal Investigator.** July 2005 - June 2015

National Institutes of Health Research Grant # 2R01 CA85870, “ Interaction of uPA/R and Integrins in Oral Cancer”, **M. Sharon Stack, Principal Investigator.** July 2001 - March 2011

National Cancer Institute #1R01 CA109545, “Receptor Cross-Talk in Early Ovarian Cancer Metastatic Dissemination”, **M. Sharon Stack, Principal Investigator.** July 2007 - May 2010 (no cost extension, competing renewal pending, score 20, 7th percentile)

Pending Research Grant Support:

National Cancer Institute #2R01 CA109545, “Receptor Cross-Talk in Early Ovarian Cancer Metastatic Dissemination”, **M. Sharon Stack, Principal Investigator.** April 2011 - May 2016 (score 20, 7th percentile)

National Cancer Institute #RO1 CA160977, “Harnessing the Potential of MicroRNA to Combat Oral Cancer”, **M. Sharon Stack, Principal Investigator.** July. 2011 – June 2016.

National Cancer Institute RO1 CA160461 “Intravascular Integrin-Mediated Steps in Breast Cancer Metastasis” Vladislav Glinskii, Principal Investigator, **M. Sharon Stack, Co-Investigator.** July 2011 – June 2016.

Mentor on Trainee Grants:

- National Institutes of Health K08 CA94877, “Cadherin-Mediated Regulation of MMPs in Oral Cancer”, H.G. Munshi, Principal Investigator; **M. Sharon Stack, Mentor**. September 2003 – August 2008.
- National Institutes of Health Research Supplements to Promote Diversity, RO1 CA86984-07S1, “Regulation of Ovarian Cancer Proteinases” to support pre-doctoral training of Natalie M. Moss. **M. Sharon Stack - Mentor**. September 2007 – April 2010.
- Illinois Department of Public Health/Penny Severns Breast, Cervical and Ovarian Cancer Research Fund Post-Doctoral Award “Epigenetic Regulation of Ovarian Cancer Metastasis”, Maria V. Barbolina, Principal Investigator; **M. Sharon Stack, Mentor**. September 2005 – June 2006.
- Ovarian Cancer Research Foundation Program of Excellence Award “Epigenetic Regulation of Metastasis-Associated Gene Expression in EOC”, Maria V. Barbolina, Principal Investigator; **M. Sharon Stack, Mentor**. December 2006 – December 2007
- Illinois Department of Public Health/Penny Severns Breast, Cervical and Ovarian Cancer Research Fund Post-Doctoral Award “Mechanisms of Invasion and Survival in Metastatic Ovarian Cancer”, Maria V. Barbolina, Principal Investigator; **M. Sharon Stack, Mentor**. July 2007 – June 2008.
- National Institutes of Health Research Supplements to Promote Diversity, RO1CA086984-11S1 “Regulation of Ovarian Cancer Proteinases” to support pre-doctoral training of Rebecca J Burkhalter. **M. Sharon Stack, Mentor**. Oct. 2010 – Sept. 2013.
- National Institute of Dental and Craniofacial Research pre-doctoral fellowship F31DE021926 “MicroRNA Profiling and Tumor Progression in HPV+ Oropharyngeal Cancer”, Daniel Miller, Principal Investigator, **M. Sharon Stack, Mentor**. April 2011 – March 2014.

Pending Trainee Grants:

- National Institutes of Health Ruth L. Kirschstein National Research Service Award for Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research (F31-Diversity) to support graduate training of Lana Bruney “Integrin-Linked Kinase and Ovarian Cancer Metastasis”. **M. Sharon Stack, Mentor**, April 2011 – March 2014.

Patents

- Jones, J.C.R., **Stack, M.S.** and Goldfinger, L.E. Methods and Materials for Making and Using Laminin-5, US 6,294,356 B1
- Moser, T.L., Pizzo, S.V., and **Stack, Mary S.** Angiostatin Receptor, US 6,444,431 B1

Local Administrative Experience (Northwestern University):

1. Program Leader, R.H. Lurie Comprehensive Cancer Center Basic Science Program on *Tumor Invasion, Metastasis and Angiogenesis*, 1999-2007
2. Leadership Committee, R. H. Lurie Comprehensive Cancer Center, 9/99-01/07
3. Subgroup Leader - Angiogenesis Group; R.H. Lurie Comprehensive Cancer Center Basic Science Research Division; Adhesion, Motility and Angiogenesis Group; 9/97-9/99
4. Co-Leader Gynecologic Oncology Research Program; R.H. Lurie Comprehensive Cancer Center ‘98-00
5. Organizer, Gynecologic Malignancies Working Group, ‘97-‘00
6. Co-Organizer, Schweppe Basic Science Colloquium “The Basic Science Underlying Anti-Angiogenic Therapies” 5/98
7. Co-Chair, Bea Schriesheim Ovarian Cancer Research Symposium “The Power of New Discoveries: The Pathway for Understanding Ovarian Cancer”, 09/05 and 11/06.

Local Administrative Experience (University of Missouri):

1. Vice-Chair for Research, Department of Pathology & Anatomical Science (PAS), 01/07 - present
2. Organizer, *Introduction to PAS Research Symposium*, March 2007, May 2008
3. Organizer, Cell Adhesion Coalition discussion series, September 2007 – 2009
4. Co-Organizer, *Integrin Signaling in Physiology and Disease symposium*, October 2010, supported by a Mizzou Advantage Grant

Teaching Experience (Northwestern):

A. Graduate/Post-Graduate:

1. Cell Biology - Extracellular Matrix
2. Tumor Cell Biology - Adhesion, Proteolysis, Invasion, Metastasis and Angiogenesis
3. Carcinogenesis - Integrins, Proteinases, Metastasis, and Angiogenesis
4. Integrated Graduate Program Rotation Students:
Vy Do ('95), Shawn Ellerbroek ('97), Shane Oram ('98), Yi Wu ('99), Jennifer Sosnowski ('00), Xiaoguang Guo ('01), Jamie Symcowicz ('02), Yvonne Wu ('03), Natalie Moss ('05), Mike Rabin ('05)
5. Masters in Biotechnology Internship Students:
Tom Kazmierczak ('95), Zac Piper ('96/97), Denny Sarlis (97/98)
5. Ph.D. Mentor:
Timothy Young ('91-'95), Shawn Ellerbroek ('97-'00), Yi Wu ('99-'04), Jaime Symcowicz ('02 - '07), Natalie Moss ('05-'09)
6. Post-Doctoral Mentor:
Supurna Ghosh ('98-'03), H.G. Munshi ('00-'03), Edgardo Ariztia ('01-'03), Subhendu Mukhopadhyay ('01-'04), Maria Barbolina ('04-'06), Zonggao Shi ('07-present)
7. External Examiner - University of New South Wales, Sydney, Australia, dissertation committee of Paul Stathakis (Phil Hogg, mentor)

B. Medical/Dental:

1. Dental Biochemistry - Connective Tissue and Biomineralization
2. Medical Student Research Elective:
Susan Larsh ('95), Amy Hegg ('96)
3. Medical Student Research Program - Penny Matthews '95, Danielle Wallace '00
4. Medical Scientist Training Program - Kara Gleason ('05)
5. Post-Doctoral Mentor
H. G. Munshi, M.D. (Hematology/Oncology Research Fellow) ('00-'03) (Received KO8 award)
6. Medical Student Freshman Class - Structure/Function - Connective Tissue Histology ('05)

C. Undergraduate

1. C99 Research Elective - Alicia Kearns (9/94-6/95), Honors Thesis won award from Northwestern Biology Department
2. CURE program mentor (Continuing Umbrella of Research Experience; summer internship training in research for minority undergraduates (yearly for summer session, '00-present)

Teaching Experience (University of Missouri)

A. Graduate/Post-Graduate

1. Advanced Oncology (School of Veterinary Medicine)
2. Rotation Students
Rebecca Burkhalter (MPP, '07); Kim Ingersoll (MD/PhD, '10); Daniel Miller (MD/PhD, '10)

3. Masters in Pathology Students
Rong Jiang ('08-'10); Yuliya Klymenko (Fulbright Fellow; '09-present)
4. Post-Sophomore Pathology Fellows, Research Mentor:
Jason Pettus ('08); Dan Miller ('10)
5. Ph. D. Mentor:
Rebecca Burkhalter ('08-present); Lana Bruney ('09-present)
6. M.D./Ph.D. Mentor
Dan Miller ('10 – present)
7. Post-Doctoral Mentor:
Zonggao Shi ('07-'09); Suzy Westfall ('07-present); Natalie Moss ('09); Anna Sluzarz ('10-present)
8. Research Asst. Professor Mentor:
Zonggao Shi ('10 – present)

B. Medical

1. Medical Student Research
Jason Pettus ('08)
Dan Miller ('10)
Kim Ingersoll ('10)
Sarah Bradley ('10)

C. Undergraduate

1. Life Sciences Undergraduate Research Opportunity Program (LS UROP)
Kim Chaffin (summer '07, '08)
2. EXPRESS Program Undergraduate Student
Maisia Reid ('09-'10)

D. High School

1. CALEB Summer Science program for minority high school students (lecture on “Metastasis”) ('10)

Local Committee Service (Northwestern):

1. Integrated Graduate Program, Program Committee, Head, Molecular Biology and Genetics Track, '98-'99
2. Integrated Graduate Program, Program Committee Head - Cancer Biology Track, '99-'02
3. Integrated Graduate Program Qualifying Exam Committees - '95- present
4. Integrated Graduate Program, Head of “Cancer Biology” track qualifying exam - '04
5. Integrated Graduate Program Dissertation Committees:
Laura Viise (Gardiner, Pathology) '95-'98
Lisa McCawley (Hudson, Molecular Pharmacology) '95-'98
Amy Wagers (Kansas, Microbiology/Immunology) '95-'99
Jennifer MacGregor (Jordan, Microbiology/Immunology) '96 - '01
Sharon Sintich (Lee, Urology) '96-'99
Larry Goldfinger (Jones, Cell & Molecular Biology) '96 - '99
Leslie Bannon (Green, Pathology) '96 - '01
Shawn Ellerbroek (Stack, Cell & Molecular Biology) '97-'01
Mahesh Alur (Wang, Urology) '97 - '06
Greg de Hart (Jones, Cell & Molecular Biology) '99 - '03
Yi Wu (Stack, Cell & Molecular Biology) '99 - '04
Marcie Vana (Leis, Microbiology/Immunology) '00 - '04

- Luisa Hiller (Haldar, Pathology) '00 - '05
- Debra Dossing (Stern, Molecular Pharmacology) '01- '05
- Taoifei Yin (Green, Pathology) '01 - '05
- Nick Giafis (Platanias, Hematology/Oncology) '04 - '06
- Jamie Symowicz (Stack, Cell & Molecular Biology) '03 – '07
- Jennifer Hobbs (Soff, Hematology/Oncology) '03 – '06
- Derek Applewhite (Borisy, Cell&Molecular Biology) '04 -
- Yvonne Wu (Jones, Cell & Molecular Biology) '05 -
- Clarissa Schumacher (Bergan, Urology) '05 – '07
- Krista Toriello (Borisy, Cell & Molecular Biology) '05 -
- Ramona Bhattacharya (MSTP) (Jones, Cell & Molecular Biology) '05 -
- Jane Maduram (MSTP) (Jones, Cell & Molecular Biology) '05 -
- Natalie Moss (Stack, Cell & Molecular Biology) '05 -
- Amanda Redig (MSTP) (Platanias, Hematology/Oncology) '06 -
- 6. Lectures in the Life Sciences Program Committee '98/99
- 7. Institutional Review Board - Panel B '96 - '99
- 8. Department of Pathology Basic Science Endowed Professor Search Committee '99
- 9. Search Committee for Dean of the Northwestern University Medical School and Vice President for Medical Affairs, August 1999-February 2000.
- 10. Search Committee for Chair of Obstetrics and Gynecology, September 2000-2001
- 11. Radiation Oncology Search Committee Chair, 2001-2002
- 12. Search Committee for Cancer basic science faculty, 12/03 - 12/04
- 13. Pathology Department Internal Review Committee, 12/04 - 06/05

Local Committee Service (University of Missouri):

- 1. Chair, School of Medicine Faculty Appointment, Promotions and Tenure (FAPT) Committee – '08 –'09 (member '07-'10)
- 2. Chair, School of Medicine Faculty Research Council – '09-'10 (member '07-'present)
- 3. School of Medicine Scientific Peer Review Committee (Vice Chair)– 01/08 - present
- 4. University of Missouri Research Board grant reviewer – 2007 - present
- 5. American Association of Medical Colleges Group on Women in Medical Sciences (GWMIS-AAMC), University of Missouri representative, '09-present
- 6. Department of Pathology & Anatomical Sciences Promotion and Tenure Committee –'07 – present
- 7. Graduate Student Thesis/Dissertation Committees:
 - Julie Weaver (Animal Science, Timms) '07-
 - Rong Jiang (Pathology Master's Program, Stack) '08 – '10
 - Rebecca Burkhalter (Medical Physiology Pharmacology, Stack) '08 –
 - Lana Bruney (Medical Physiology Pharmacology, Stack) '09 –
 - Yuliya Klymenko (Pathology Master's Program, Stack) '09 –
 - Rong Hu (Interdisciplinary Neuroscience Program, Gu) '09 – '10
 - Daniel Miller (MD/PhD Pathobiology Area Program, Stack) '10-present
- 8. School of Medicine Research Administrators Council – 06/07 -05/08
- 9. School of Medicine Faculty Appointment, Promotions and Tenure (FAPT) Committee – 07/07 – 08/10 (Committee Chair for 2008/2009 academic year)
- 10. School of Medicine Faculty Orientation and Retention Committee – '08-'09

Refereed Journal Articles:

1. Gibson, D.M., **Stack, S.**, Krell, K., House, J. (1982) A Comparison of Soybean Agglutinin in Cultivars Resistant and Susceptible to *Phytophthora megasperma*. *Plant Physiol.* **70**, 560-566.
2. Smith, C., **Stack, M.S.**, Johnson, D.A. (1987) Ozone Effects on Inhibitors of Human Neutrophil Proteinases. *Arch. Biochem. Biophys.* **253**, 146-155.
3. **Stack, M.S.**, Smith, C., Dean, W.L., and Johnson, D.A. (1987) Bronchial Leukocyte Proteinase Inhibitor: Hydrodynamic Properties and Interaction with Alpha₂-Macroglobulin-Bound Elastase. *Arch. Biochem. Biophys.* **260**, 400-407.
4. **Stack, M.S.** and Gray, R.D. (1989) Comparison of Vertebrate Collagenase and Gelatinase Using a New Fluorogenic Substrate Peptide. *J. Biol. Chem.* **264**, 4277-4281.
5. Burns, F.R., **Stack, M.S.**, Gray, R.D., Paterson, C.A. (1989) Inhibition of Purified Collagenase from Alkali-Burned Rabbit Corneas. *Invest. Ophthalmol. Vis. Sci.* **30**, 1569-1575.
6. Darlak, K., Miller, R.B., **Stack, M.S.**, Spatola, A.R., and Gray, R.D. (1990) Thiol-based Inhibitors of Mammalian Collagenase: Substituted Amide and Peptide Derivatives of the Leucine Analogue, 2-[(R,S)-Mercaptomethyl]-4-methylpentanoic acid. *J. Biol. Chem.* **265**, 5199-5205.
7. **Stack, M.S.** and Gray, R.D. (1990) The Effect of pH, Temperature and D₂O on the Activity of Porcine Synovial Collagenase and Gelatinase. *Arch. Biochem. Biophys.* **281**, 257-263.
8. **Stack, M.S.**, Gonzalez-Gronow, M., Pizzo, S.V. (1990) Regulation of Plasminogen Activation by Components of the Extracellular Matrix. *Biochemistry* **29**, 4966-4970.
9. **Stack, M.S.**, Gonzalez-Gronow, M., Pizzo, S.V. (1991) The Effect of Divalent Cations on the Conformation and Function of Human Plasminogen. *Arch. Biochem. Biophys.* **284**, 58-62.
10. **Stack, M.S.**, Gray, R.D. and Pizzo, S.V. (1991) Modulation of Plasminogen Activation and Type IV Collagenase Activity by a Synthetic Peptide Derived From the Laminin A Chain. *Biochemistry* **30**, 2073-2077.
11. Gonzalez-Gronow, M., **Stack, M.S.**, and Pizzo, S.V. (1991) Plasmin Binding to the Plasminogen Receptor Enhances Catalytic Efficiency and Activates the Receptor for Subsequent Ligand Binding. *Arch. Biochem. Biophys.* **286**, 625-628.
12. **Stack, M.S.**, Emberts, C., and Gray, R.D. (1991) Application of N-Carboxyalkyl Peptides to the Inhibition and Affinity Purification of the Porcine Matrix Metalloproteinases Collagenase, Gelatinase, and Stromelysin. *Arch. Biochem. Biophys.* **287**, 240-249.
13. **Stack, M.S.**, Moser, T., and Pizzo, S.V. (1992) Binding of Human Plasminogen to Basement Membrane (type IV) Collagen. *Biochemical Journal* **284**, 103-108.
14. **Stack, M.S.**, Pizzo, S.V. and Gonzalez-Gronow, M. (1992) Effect of Desialylation on the Biological Properties of Plasminogen. *Biochemical Journal* **284**, 81-86.
15. Young, T.N., Edelberg, J.M., **Stack, M.S.** and Pizzo, S.V. (1992) Ionic Modulation of the Effects of Heparin on Plasminogen Activation by Tissue Plasminogen Activator. *Arch. Biochem. Biophys.* **296**, 530-538.
16. **Stack, M.S.**, Gray, R.D. and Pizzo, S.V. (1993) Modulation of Murine B16F10 Melanoma Plasminogen Activator Production by a Synthetic Peptide Derived from the Laminin A Chain. *Cancer Research* **53**, 1998-2004.
17. Moser, T.L., Enghild, J.J., Pizzo, S.V. and **Stack, M.S.** (1993) The Extracellular Matrix Proteins Laminin and Fibronectin Contain Binding Domains for Human Plasminogen and Tissue Plasminogen Activator. *J. Biol. Chem.* **268**, 18917-18923.
18. **Stack, M.S.** and Pizzo, S.V. (1993) Modulation of Tissue Plasminogen Activator-Catalyzed Plasminogen Activation by Synthetic Peptides Derived from the Amino-Terminal Heparin Binding Domain of Fibronectin. *J. Biol. Chem.* **268**, 18923-18927.
19. Moser, T.L., Young, T.N., Rodriguez, G., Pizzo, S.V., and **Stack, M.S.** (1994) Secretion of Extracellular Matrix-Degrading Proteinases is Enhanced in Ovarian Epithelial Carcinoma. *Int. J. Cancer* **56**, 552-559.

20. **Stack, M.S.** and Pizzo, S.V. (1994) The Effect of Substituted Laminin-Derived Peptides on the Conformation and Activation Kinetics of Human Plasminogen. *Arch. Biochem. Biophys.* **309**, 117-122.
21. **Stack, M.S.** and Johnson, D.A. (1994) Human Mast Cell Tryptase Activates Single Chain Urinary-type Plasminogen Activator (Prourokinase). *J. Biol. Chem.* **269**, 9416-9419.
22. Young, T.N., Rodriguez, G., Moser, T., Bast, R.C., Pizzo, S.V. and **Stack, M.S.** (1994) Co-ordinate Expression of Urinary-type Plasminogen Activator (u-PA) and its Receptor Accompanies Malignant Transformation of Ovarian Epithelium. *Am. J. Obstet. Gynecol.* **170**, 1285-1296.
23. Young, T.N., Pizzo, S.V. and **Stack, M.S.** (1995) A Plasma Membrane-Associated Component of Ovarian Adenocarcinoma Cells Enhances the Catalytic Efficiency of Matrix Metalloproteinase-2. *J. Biol. Chem.* **270**, 999-1002.
23. Moser, T.L., Enghild, J.J., Pizzo, S.V. and **Stack, M.S.** (1995) Specific Binding of Urinary-type Plasminogen Activator (u-PA) to Vitronectin and its Role in Mediating u-PA-Dependent Adhesion of U937 Cells. *Biochemical Journal* **307**, 867-873.
24. **Stack, M.S.**, Rinehart, A. and Pizzo, S.V. (1995) Comparison of Plasminogen Binding and Activation on Extracellular Matrices Derived from Smooth Muscle and Endothelial Cells. *European J. Biochem.* **226**, 937-943.
25. Young, T.N., Rodriguez, G.C., Bast, R.C., Pizzo, S.V., and **Stack, M.S.** (1996) Characterization of Gelatinases Linked to Invasion in Ovarian Carcinoma: Purification of Matrix Metalloproteinase 2. *Gynecologic Oncology* **62**, 89-99.
26. Moser, T.L., Pizzo, S.V., Bafetti, L., Fishman, D., and **Stack, M.S.** (1996) Evidence for Preferential Adhesion of Ovarian Epithelial Carcinoma Cells to Type I Collagen Mediated by the $\alpha 2\beta 1$ Integrin. *Int. J. Cancer*, **67**:695-701.
27. **Stack, M.S.**, Itoh, Y., Young, T.N. and Nagase, H. (1996) Fluorescence Quenching Studies of Matrix Metalloproteinases (MMPs): Evidence for Structural Rearrangement of the proMMP- 2/TIMP-2 Complex upon Mercurial Activation. *Arch. Biochem. Biophys.* **333**:163-169.
28. Gately, S., Twardowski, P., **Stack, M.S.**, Patrick, M., Boggio, L., Cundiff, D.L., Schnaper, H.W., Madison, L., Volpert, O., Bouck, N., Enghild, J., Kwaan, H.C., and Soff, G. (1996) Human Prostate Carcinoma Cells Express Enzymatic Activity that Converts Human Plasminogen to the Angiogenesis Inhibitor Angiostatin. *Cancer Research* **56**:4887-4890.
29. Fishman, D.A., Bafetti, L.M., and **Stack, M.S.** (1997) Membrane-Type Matrix Metalloproteinase Expression and Matrix Metalloproteinase Activation in Primary Human Ovarian Epithelial Cells. *Invasion and Metastasis*, **16**:150-159.
30. Tolsma, S.S., **Stack, M.S.** and Bouck, N. (1997) Lumen Formation and Other Angiogenic Activities of Cultured Capillary Endothelial Cells Are Inhibited by Thrombospondin-1. *Microvascular Research* **54**:13-26.
31. Fishman, D.A., Bafetti, L.M., Banionis, S., Kearns, A.S., Chilukuri, K., and **Stack, M.S.** (1997) Production of Extracellular Matrix Degrading Proteinases by Primary Cultures of Human Epithelial Ovarian Carcinoma Cells. *Cancer* **80**:1457-63.
32. Gately, S. Twardowski, P., **Stack, M.S.**, Cundiff, D.L., Weiss, I., Grella, D., Castellino, F.J., Enghild, J.J., Kwaan, H.C., Lee, F., Kramer, R.A., Volpert, O., Bouck, N., and Soff, G.A. (1997) The Mechanism of Cancer-Mediated Conversion of Plasminogen to the Angiogenesis Inhibitor Angiostatin. *Proc. Nat. Acad. Sci.*, **94**: 10868-10872.
33. Fishman, D.A., Chilukuri, K., and **Stack, M.S.** (1997) Biochemical Characterization of Primary Peritoneal Carcinoma Cell Adhesion, Migration and Proteinase Activity. *Gynecologic Oncology*, **67**:193-199.
34. Xu, F.J., Stack, M.S., Boyer, C., O'Briant, K., Whitaker, R., Mills, G.B., Yu, Y.H., Bast, R.C., Jr. (1997) Heregulin and Agonistic anti-p185 (c-erbB2) Antibodies Inhibit Proliferation but Increase Invasiveness of Breast Cancer Cells That Overexpress p185 c-erbB2: Increased Invasiveness May Contribute to Poor Prognosis. *Clin. Can. Res.* **3**:1629-1634.

35. Bafetti, L.M., Young, T.N., Itoh, Y. and **Stack, M.S.** (1998) Intact Vitronectin Induces Matrix Metalloproteinase-2 and Tissue Inhibitor of Metalloproteinases-2 Expression and Enhanced Cellular Invasion by Melanoma Cells. *J. Biol. Chem.***273**:143-149.
36. Thomas, V.A., Wheelless, C.J., **Stack, M.S.**, and Johnson, D.A. (1998) Human Mast Cell Trypsase Fibrinogenolysis: Kinetics, Anticoagulation Mechanism and Cell Adhesion Disruption. *Biochemistry*, **37**:2291-2290.
37. Goldfinger, L.E., **Stack, M.S.**, and Jones, J.C.R. (1998) Processing of Laminin-5 and its Physiological Consequences: Role of Plasmin and Tissue-type Plasminogen Activator. *J. Cell Biology* **141**:255-265.
38. Ellerbroek, S.M., Hudson, L.G. and **Stack, M.S.** (1998) Proteinase Requirements of Epidermal Growth Factor Induced Ovarian Cancer Cell Invasion. *Int. J. Cancer* **78**:331-337.
39. Rao, C.N., Cook, B., Liu, Y., Chilukuri, K., **Stack, M.S.**, Foster, D.C., Kisiel, W., and Woodley, D.T. (1998) HT-1080 Fibrosarcoma Cell Matrix Degradation and Invasion Are Inhibited by the Matrix-Associated Serine Protease Inhibitor TFPI-2/33 kDa MSPI. *Int. J. Cancer* **76**:749-756.
40. Fishman, D.A., Kearns, A.M., Chilukuri, K., Bafetti, L.M., O'Toole, E.A., Georgacopoulos, J., Ravosa, M.J., and **Stack, M.S.** (1998) Metastatic Dissemination of Human Ovarian Epithelial Carcinoma is Promoted by $\alpha 2\beta 1$ Integrin-Mediated Interaction with Type I Collagen. *Invasion and Metastasis* **18**:15-26.
41. Ellerbroek, S.M., Kearns, A.M., Bafetti, L.M., Fishman, D.A. and **Stack, M.S.** (1999) Ovarian Carcinoma Regulation of Matrix Metalloproteinase-2 and Membrane Type-1 Matrix Metalloproteinase Through β 1 Integrin. *Cancer Research* **59**: 1635-1641.
42. Moser, T.L., **Stack, M.S.** , Asplin, I., Enghild, J.J., Hojrup, P., Hubchak, S. Schnaper, H.W. and Pizzo, S.V. (1999) Angiostatin Binds ATP Synthase on the Surface of Human Endothelial Cells.. *Proc. Natl. Acad. Sci. USA* **96**:2811-2816.
43. **Stack, M.S.**, Gately, S., Bafetti, L.M., Enghild, J.J., and Soff, G.A. Angiostatin Inhibits Endothelial and Melanoma Cellular Invasion by Blocking Matrix-Enhanced Plasminogen Activation (1999) *Biochem. J.* **340**: 77-84.
44. Fishman, D.A., Kearns, A., Larsh, S., Enghild, J.J., and **Stack, M.S.** (1999) Autocrine Regulation of Growth Stimulation in Human Epithelial Ovarian Carcinoma by Serine Proteinase-Catalyzed Release of the Urinary-type Plasminogen Activator Amino Terminal Fragment. *Biochem. J.* **341**:765-769.
45. Liu, Y, **Stack, MS**, Lakka, SS, Khan, AJ, Woodley, DT, Rao, JS, and Rao, CN (1999) Matrix Localization of TFPI-2/MSPI Involves Arginine-Mediated Ionic Interactions with Heparin and Dermatan Sulfate: Heparin Accelerates the Activity of TFPI-2/MSPI Towards Plasmin. *Archives Biochem. Biophys.* **370**:112-118.
46. Ghosh, S., Brown, R., Jones. J.C.R., Ellerbroek, S.M. and **Stack, M.S.** (2000) Urinary-Type Plasminogen Activator (uPA) Expression and uPA Receptor Localization Are Regulated by $\alpha 3\beta 1$ Integrin in Oral Keratinocytes. *J. Biol. Chem.* **275**:23869-23876.
47. Goldfinger, L.E., Hopkinson, S.B., **Stack, M.S.**, and Jones, J.C.R. (2000) Spatial Regulation and Affinity Modulation of Plasmin by High-Affinity Binding to the G Domain of the $\alpha 3$ Subunit of Laminin-5. *J. Biol. Chem.* **275**:34887-93.
48. Rodriguez, G.C., Haisley, C., Hurteau, J. Moser, T.L., Whitaker, R., Bast, R.C., Jr. and **Stack, M.S.** (2000) Regulation of Invasion of Epithelial Ovarian Cancer by Transforming Growth Factor Beta. *Gynecologic Oncology* **80**:245-253.
49. Rao, C.N., Reddy, P., Reeder, D.J., Liu, Y., **Stack, S.**, Kisiel, W., and Woodley, D.T. (2000) Prokaryotic Expression, Purification, and Reconstitution of Biological Activities (Antiprotease, Antitumor, and Heparin-Binding) for Tissue Factor Pathway Inhibitor-2. *Biochem. Biophys. Res. Commun.* **276**: 1286-1294.

50. Ellerbroek, S.M., Halbleib, J., Benevidez, M., Wattenbeg, E.V., **Stack, M.S.** and Hudson, L.G. (2001) Requirement for Phosphatidylinositol 3-Kinase Activity in Epidermal Growth Factor-Stimulated Matrix Metalloproteinase (MMP)-9 Production and Cell Surface Association. *Cancer Research* **61**: 1855-1861.
51. Fishman, D.A., Liu, Y., Ellerbroek, S.M. and **Stack, M.S.** (2001) Lysophosphatidic Acid Promotes Matrix Metalloproteinase Processing and MMP-Dependent Invasion in Ovarian Carcinoma Cells. *Cancer Research* **61**, 3194-3199.
52. Ellerbroek, SM, Wu, Y.I., and **Stack, M.S.** (2001) Type I Collagen Stabilization of Matrix Metalloproteinase-2. *Arch. Biochem. Biophys.* **390**:51-56
53. Ellerbroek, S.M., Wu, Y., Overall, C.M. and **Stack, M.S.** (2001) Functional Interplay Between Type I Collagen and Cell Surface Matrix Metalloproteinase Activity. *J. Biol. Chem.* **276**:24833-42.
54. Bannon, L.J., **Stack, M.S.**, and Green, K.J. (2001) Limitation of Comparative Detection of Proteins via Epitope Tagging. *Anal. Biochem.* **293**:139-42.
55. Bannon, L.J., Cabrera, B.L., **Stack, M. S.** and Green, K.J. (2001) Isoform-Specific Differences in the Size of Desmosomal Cadherin/Catenin Complexes. *J. Invest. Derm.* **117**:1302-1306.
56. Mauceri, H.J., Seetharam, S., Beckett, M.A., Lee, J.Y., Gately, S., **Stack, M.S.**, Brown C.K., Swedberg, K., Gupta, V.K., Kufe, D.W., and Weichselbaum, R.R. (2002) Tumor Production of Angiostatin is Enhanced After Exposure to TNF-alpha . *Int. J. Cancer* **97**:410-415.
57. Ghosh, S., Munshi, H.G., Sen, R., Linz-McGillem, L.A., Goldman, R.D., Lorch, J., Green, K.J., Jones, J.C.R. and **Stack, M.S.** (2002) Loss of Adhesion-Regulated Proteinase Expression in Oral Squamous Cell Carcinoma. *Cancer* **95**:2524-2533.
58. Munshi, H.G., Ghosh, S., Mukhopadhyay, S., Wu, Y.I., Sen, R., Green, K.G., and **Stack, M.S.** (2002) Proteinase Suppression by E-Cadherin-Mediated Cell-Cell Attachment in Premalignant Oral Keratinocytes. *J. Biol. Chem.*, **277**:38159-38167.
59. Tam, E., Wu, Y.I., Butler, G.S., **Stack, M.S.** and Overall, C.M. (2002) Collagen Binding Properties of the MT1-MMP Hemopexin C Domain: The Ectodomain of the 44 kDa Autocatalytic Fragment of MT1-MMP Inhibits Cell Invasion by Disrupting Native Type I Collagen Cleavage. *J. Biol. Chem.* **277**:39005-39014.
60. Munshi, H.G., Wu, Y.I., Ariztia, E.A. and **Stack, M.S.** (2002) Calcium Regulation of Matrix Metalloproteinase-2-Mediated Migration in Oral Squamous Cell Carcinoma. *J. Biol. Chem.* **277**: 41480-41488.
61. Lauer-Fields, J.L., Sritharan, T., **Stack, M.S.**, Nagase, H., and Fields, G.B. (2003) Selective Hydrolysis of Triple-Helical Substrates by Matrix Metalloproteinase-2 and -9. *J. Biol. Chem.* **278**:18140-18145.
62. Wu, Y.I., Munshi, H.G., Sen, R., Snipas, S.J., Salvesen, G.S., Fridman, R., and **Stack, M.S.** (2004) Glycosylation Broadens the Substrate Profile of Membrane Type 1-Matrix Metalloproteinase (MT1-MMP) *J. Biol. Chem.* **279**:8278-8289.
63. Tam, E.M., Morrison, C.J., Wu, Y.I., **Stack, M.S.**, and Overall, C.M. (2004) Membrane Protease Proteomics: Isotope Coded Affinity Tag/Tandem Mass Spectrometry Identification of Novel MT1-MMP Substrates. *Proc. Nat. Acad. Sci.* **101**:6917-6921.
64. Mukhopadhyay, S.M., Munshi, H.G., Kambhampati, S., Sassano, A., Platanias, L.C. and **Stack, M.S.** (2004) Calcium Induced Matrix Metalloproteinase-9 Gene Expression is Differentially Regulated by ERK1/2 and p38 MAPK in Oral Squamous Cell Carcinoma. *J. Biol. Chem.*, **279**:33139-33146.
65. Lorch, J.H., Park, J.K., Klessner, J., Getsios, S., **Stack, M.S.** and Green, K.J. (2004) Epidermal Growth Factor Receptor Inhibition Promotes Desmosome Assembly and Strengthens Intercellular Adhesion in Squamous Carcinoma Cells. *J. Biol. Chem.* **279**:37191-37200.
66. Munshi, H.G., Wu Y.I., Mukhopadhyay S., Koblinski, J., Platanias L.C., and **Stack M.S.** (2004) Transforming Growth Factor Beta1-Induced Pericellular Collagenolysis is Controlled Through Differential Regulation of Membrane-Type 1 Matrix Metalloproteinase Activity by Extracellular Signal-Regulated Kinase 1-2 and p38 Mitogen-Activated Protein Kinase. *J. Biol. Chem.* **279**:39042-39050.

67. Graves, L.E., Ariztia, E.V., Navari, J.R., Matzel, H.J., **Stack, M. S.** and Fishman, D.A. (2004) Proinvasive Properties of Ovarian Cancer Ascites-Derived Membrane Vesicles. *Cancer Research* **64**:7045-7049.
68. Symowicz, J., Adley, B.P., Woo, M. M., Auersperg, N., Hudson, L.G., and **Stack, M.S.** (2005) Cyclooxygenase-2 Functions as a Downstream Mediator of Lysophosphatidic Acid to Promote Aggressive Behavior in Ovarian Carcinoma Cells. *Cancer Research* **65**:2234-42.
69. Ning, Y., Zeineldin, R., Liu, Y., **Stack, M.S.**, and Hudson, L.G. (2005) Downregulation of Integrin $\alpha 2$ Surface Expression by Mutant Epidermal Growth Factor Receptor (EGFRvIII) Induces Aberrant Cell Spreading and Focal Adhesion Formation. *Cancer Research* **65**:9280-6.
70. Zeineldin R., Rosenberg M., Ortega D., Chavez M.G., **Stack, M.S.**, Kusewitt D.F. and Hudson L.G. (2006) Mesenchymal Transformation in Epithelial Ovarian Tumor Cells Expressing Epidermal Growth Factor Receptor Variant III. *Molecular Carcinogenesis* **45**:851-60.
71. Ghosh, S., Johnson J.J., Sen, R., Mukhopadhyay S., Liu, Y., Zhang, F., Wei, Y., Chapman, H.A., and **Stack, M.S.** (2006) Functional Relevance of Urinary-type Plasminogen Activator Receptor (uPAR)- $\alpha 3\beta 1$ Integrin Association in Proteinase Regulatory Pathways. *J. Biol. Chem.* **281**:13021-9.
72. Ravosa, M.J., Kunwar, R., Nicholson, E.K., Klopp, E.B., Pinchoff, J., Stock, S.R., **Stack, M.S.** & Hamrick, M.W. (2006) Adaptive plasticity in mammalian masticatory joints. *Developments in X-Ray Tomography V. 5th Proceedings of SPIE-Int. Soc. Optical Engineering* 6318:1-9.
73. Ravosa, M.J., Kunwar, R., Stock, S.R. & **Stack, M.S.** (2007) Pushing the limit: Masticatory stress and adaptive plasticity in mammalian craniomandibular joints. *J. Exp. Biol.* **210**:628-41.
74. Barbolina, M.V., Ariztia, E.V., Adley, B.P., Liu, Y., and **Stack, M.S.** (2007) Microenvironmental Regulation of Membrane Type 1 Matrix Metalloproteinase (MT1-MMP) Activity in Ovarian Carcinoma Cells via Collagen-Induced Egr-1 Expression. *J. Biol. Chem.* **282**:4924-31.
75. Symowicz, J.E., Adley, B.P., Gleason, K., Fishman, D.A., Hudson, L.G. and **Stack, M.S.** (2007) Integrin Engagement Promotes Proteinase-Dependent E-Cadherin Ectodomain Shedding in Ovarian Carcinoma Cells. *Cancer Research* **67**: 2030-9.
76. Do, T.V., Symowicz J.C., Berman D.M., Liotta L.A., Petricoin E.F. 3rd, **Stack M.S.** and Fishman D.A. (2007) Lysophosphatidic Acid Down-Regulates Stress Fibers and Up-regulates Pro-Matrix Metalloproteinase-2 Activation in Ovarian Cancer Cells. *Molecular Cancer Research* **5**:121-131.
77. Wolf, K., Wu, Y.I., Liu, Y., Tam, E., Geiger J., Brocker E.B., Overall C., **Stack M. S.** and Friedl P. (2007) High resolution topography and outcome of pericellular proteolysis: belt-cleavage, path generation and invasive tumor cell patterning. *Nature Cell Biology* **9**:893-904.
78. Wu, Y.I., Munshi, H.G., Snipas, S.J., Salvesen, G.S., Fridman, R., and **Stack, M.S.** (2007) Activation-Coupled Membrane Type 1 Matrix Metalloproteinase Membrane Trafficking. *Biochemical J.* **407**:171-7.
79. Barbolina, M.V., Adley, B.P., and **Stack, M.S.** (2008) Wilms' Tumor Gene Protein 1 is Associated with Ovarian Cancer Metastasis and Modulates Cell Invasion. *Cancer* **112**: 1632-41.
80. Norton, J.T., Witschi M.A., Luong L., Kawamura A., Ghosh S., **Stack, M.S.**, Sim E., Avram M.J., Appella D.H., Huang S. (2008) Synthesis and Anticancer Activities of 6-amino Amonafide Derivatives. *Anticancer Drugs* 19:23-36.
81. Cowden-Dahl, K., Symowicz, J., Ning, Y., Gutierrez, E., Fishman, D.A., Adley, B.P., **Stack, M. S.** and Hudson, L.G. (2008) Matrix Metalloproteinase-9 is a Mediator of Epidermal Growth Factor-Dependent E-cadherin Loss in Ovarian Carcinoma Cells. *Cancer Research* **68**:4606-13. NIHMSID#127554
82. Barbolina, M.V., Adley B.P., Kelly D.L., Fought A.J., Scholtens D., Shea L.D., and **Stack, M.S.** (2008) Motility Related Actinin Alpha-4 Is Associated with Advanced and Metastatic Ovarian Carcinoma. *Laboratory Investigation* **88**:602-614. PMCID: PMC2849305
83. Wang C., Norton J.T., Ghosh S., Kim J.J., Fushimi K., Wu J.Y., **Stack M.S.** and Huang S. (2008) PTB Differentially Affects Malignancy in a Cell Line Dependent Manner. *J. Biol. Chem.* **283**: 20277-87.
84. Ravosa, M.J., López, E.K., Menegaz, R.A., Stock, S.R., **Stack, M.S.** & Hamrick, M.W. (2008) Using "Mighty Mouse" to understand masticatory plasticity: Myostatin-deficient mice and musculoskeletal

- function. *Int. Comp. Biol.* 48:345-359. (Invited Symposium Volume on Building a Better Organismal Model: The Role of the Mouse)
84. Pettus, J., Johnson, J.J., Shi, Z., Davis, J.W., Koblinski, J.K., Ghosh, S., Liu, Y., Ravosa, M.J., Frazier, S. and **Stack, M.S.** (2009) Multiple Kallikrein (5, 7, 8, and 10) Expression in Squamous Cell Carcinoma of the Oral Cavity. *Histology & Histopathology* **24**:197-207. PMCID: PMC2835693
 85. Adley, B.P., Gleason K., Yang, X. J., and **Stack, M.S.** (2009) Expression of Membrane Type 1 Matrix Metalloproteinase (MMP-14) in Epithelial Ovarian Cancer: High Level Expression in Clear Cell Carcinoma. *Gynecologic Oncology* **112**: 319-324. PMCID: PMC2663392
 86. Woo, M., Salamanca C., Symowicz, J., **Stack, M.S.**, Leung P., Gilks B., and Auersperg N. (2008) SV40 Early Genes Promote Neoplastic Progression of Serous Borderline Ovarian Tumors. *Gynecologic Oncology*, **111**: 125-131.
 87. Moss, N.M., Liu, Y., Johnson, J.J., Debiase P., Jones J., Hudson, L.G., Munshi H.G., and **Stack, M.S.** (2009) Epidermal Growth Factor Receptor-Mediated Membrane Type 1 Matrix Metalloproteinase Endocytosis Regulates the Transition Between Invasive and Expansive Growth in Three-Dimensional Collagen. *Molecular Cancer Research* **7**:809-820. NIHMSID#127557; PMCID: PMC2843416.
 88. Moss, N.M., Wu Y.I., Liu Y, Munshi H.G. and **Stack M.S.** (2009) Modulation of the Membrane Type 1 Matrix Metalloproteinase Cytoplasmic Tail Enhances Invasion and Proliferation in Three-Dimensional Collagen Matrices. *J. Biol. Chem.* **284**: 19791-9. PMCID: PMC2740404
 89. Ghosh, S., Koblinski, J., Johnson, J., Liu, Y., Frazier, S., Ericson, A., Shi, Z., Ravosa, M.J., Crawford, S., and **Stack, M.S.** (2010) Urinary-Type Plasminogen Activator Receptor (uPA/R)/ $\alpha 3\beta 1$ Integrin Signaling and Oral Tumor Progression. *Mol. Can. Res.* **8**: 145-158. PMCID: PMC2825738
 90. Barbolina M.V., Adley B.P., Kelly D.L., Shepard J., Fought A.J., Scholtens D., Penzes P., Shea L.D. and **Stack, M.S.** (2009) Downregulation of Connective Tissue Growth Factor by Three-Dimensional Matrix Enhances Ovarian Carcinoma Cell Invasion. *Int. J. Cancer* **125**:816-25. PMCID: PMC2849282
 91. Moss N.M., Barbolina M.V., Liu Y., Sun L., Munshi H.G., and **Stack, M.S.** (2009) Ovarian Carcinoma Cell Detachment and Multi-cellular Aggregate Formation are Regulated by MT1-MMP: A Potential Role in Intra-Peritoneal Metastatic Dissemination. *Cancer Research* **69**: 7121-9. PMCID: PMC2737080
 92. Barbolina M. V., Kim M., Liu Y., Shepard J. Belmadani A., Miller R.J., Shea L.D. and **Stack M.S.** (2010) Microenvironmental Regulation of Chemokine (C-X-C-motif) Receptor 4 in Ovarian Carcinoma. *Molecular Cancer Research* **8**:653-64.
 93. Ravosa, M.J., Ning, J., Costley, D.B., Daniel, A.N., Stock, S.R. & **Stack, M.S.** (2010) Masticatory biomechanics and masseter fiber-type plasticity. *J. Musculoskeletal Neuronal Interactions* **10**:46-55. (Special Issue on Muscle-Bone Interactions)
 94. Jašarević, E., Ning, J., Daniel, A.N., Menegaz, R.A., Johnson, J.J., **Stack, M.S.** & Ravosa, M.J. (2010) Masticatory loading, function and plasticity: A microanatomical analysis of mammalian circumorbital soft-tissue structures. *Anat. Record* **293A**:642-50. (Special Issue on Experimental Approaches to Primate Morphology)
 95. Shi Z., Johnson J., Liu Y., **Stack M.S.** Urinary-type plasminogen activator receptor (uPAR) modulates cellular invasive behavior and integrin function in oral cancer cells via alteration in focal adhesion proteins, *in revision*
 96. Ravosa M.J., Ning J., Liu Y., and **Stack, M.S.** (2010) Bisphosphonate Effects on the Behavior of Oral Epithelial Cells and Oral Fibroblasts. *Arch. Oral Biol.*, *in press*
 97. Jiang R, Shi Z., Johnson J.J., Liu Y. and **Stack, M.S.** (2011) Kallikrein-5 Promotes Cleavage of Desmoglein-1 and Loss of Cell-Cell Cohesion in Oral Squamous Cell Carcinoma. *J Biol. Chem*, *in press*
 98. Burkhalter R., Symowicz J., Hudson L.G., Gottardi C.J., and **Stack M.S.** Integrin Regulation of β -catenin Signaling in Ovarian Carcinoms, *in review*
 99. Barbolina MV, Kim M, Kajdacsy-Balla AA, Rooper L, Shepard J, Weiss M, Penzes P, Shea LD, Stack MS. Three-Dimensional Collagen Activates Wnt Signaling Through Downregulation of Dickkopf-1, *in review*

Book Chapters and Invited Reviews:

1. **Stack, M.S.**, Madison, E.L., and Pizzo, S.V. (1995) Tissue-Type Plasminogen Activator, in *Molecular Basis of Thrombosis and Hemostasis*, Roberts, H.R. and High, K.A., eds., Marcel Dekker Inc., pp. 479-494
2. **Stack, M.S.**, Ellerbroek, S.M. and Fishman, D.A. (1998) The Role of Proteolytic Enzymes in the Pathology of Ovarian Carcinoma (Review) , *Int. J. Oncology* **12**: 569-576.
3. Ellerbroek, S.M. and **Stack, M.S.** Membrane-Associated Matrix Metalloproteinases in Metastasis (Review) (1999) *Bioessays* **21**: 940-949.
4. Ghosh, S., Wu, Y., Ellerbroek, S.M., and **Stack, M.S.** (2000) Tumor Cell Mediated Proteolysis: Regulatory Mechanisms and Functional Consequences. *Fibrinolysis and Proteolysis* **14**:87-97.
5. Ghosh, S. and **Stack, M.S.** (2000) Structural and Functional Modifications of Laminins by Proteolytic Cleavage. *Microscopy Research and Technique* **51**:238-246.
6. Ghosh, S., Wu, Y., and **Stack, M.S.** (2001) Ovarian Cancer-Associated Proteinases, in. *Cancer Treatment and Research: Ovarian Cancer*, **Stack, M.S.** and Fishman, D.A., Editors Kluwer Academic Publishers, pp.331-351.
7. Mills, G.B., Eder, A., Fang, X., Hasegawa, Y., Mao, M., Lu, Y., Tanyi, J., Tabassam, F.H., Wiener, J., Lapushin, R., Yu, S., Parrott, J.A., Compton, T., Tribbley, W., Fishman, D., **Stack, M.S.**, Gaudette, D., Jaffe, R., Furui, T., Aoki, J., Erickson, J.R. (2001) Critical Role of Lysophospholipids in the Pathophysiology, Diagnosis, and Management of Ovarian Cancer, in *Cancer Treatment and Research: Ovarian Cancer*, **Stack, M.S.** and Fishman, D.A., Editors Kluwer Academic Publishers, pp 259-284.
8. **Stack, M.S.** (2001) Matrix Metalloproteinases, in *Cancer: An Encyclopedic Reference*, Springer Verlag, in press.
9. Ellerbroek, S.M., Wu, Y., and **Stack, M.S.** (2002) Regulatory Mechanisms for Proteinase Activity, in *Proteinase and Peptidase Inhibition: Recent Potential Targets for Drug Development*, Smith, H.J. and Simons, C. eds., Taylor and Francis, London, pp. 21-34
10. Moser, T.L., **Stack, M.S.** , Wahl, M.L., and Pizzo, S.V. (2002) The Mechanism of Action of Angiostatin, *Thrombosis and Haemostasis* **87**:394-401.
11. H.G. Munshi and **M. Sharon Stack** (2002) Analysis of Matrix Degradation in *Methods in Cell Biology* **69**: 195-205, *Methods in Cell-Matrix Adhesion*, Academic Press, San Diego.
12. DeClerck, Y.A., Mercurio, A.M., **Stack, M.S.**, Chapman, H.A., Zutter, M.M., Muschel, R.J., Raz, A., Matrisian, L.M., Sloane, B.F., Noel, A., Hendrix, M.J., Coussens, L., and Padarathsingh, M. (2004) Proteases, Extracellular Matrix, and Cancer: a workshop of the path B study section. *Am. J. Pathol.* **164**:1131-1139.
13. Munshi, H.G. and **Stack, M.S.** (2006) Reciprocal Interactions Between Adhesion Receptor Signaling and MMP Regulation, for *Cancer Metastasis Reviews* **25**: 45-56.
14. Shi, Z., and **Stack, M.S.** (2007) Urinary-Type Plasminogen Activator (uPA) and its Receptor (uPAR) in Oral Squamous Cell Carcinoma of the Oral Cavity. *Biochemical Journal* **407**: 153-9.
15. Ravosa, M.J., López, E.K., Menegaz, R.A., Stock, S.R., **Stack, M.S.** & Hamrick, M.W. (2008) Adaptive plasticity in the mammalian masticatory complex: You are what, and how, you eat. C.J. Vinyard, M.J. Ravosa & C.E. Wall (Eds.): *Primate Craniofacial Biology and Function*. New York: Springer Academic Publishers, pp. 293-328.
16. Barbolina, M. and **Stack, M.S.** (2008) Membrane Type-1 Matrix Metalloproteinase: Substrate Diversity in Pericellular Proteolysis. W. Parks, Ed. *Seminars in Cell and Develop. Biol.*, **19**:24-33. PMID: PMC2685078
17. Hudson, L.G., Zeineldin, R., and **Stack, M.S.** (2008) Phenotypic Plasticity of Neoplastic Ovarian Epithelium: Unique Cadherin Profiles in Tumor Progression. *Clin. Exp. Metastasis*, **25**: 643-55. PMID: PMC2836537

18. Barbolina, M.V., Moss, N.M., Westfall, S.D., Liu Y., Burkhalter, R.J., Marga, F., Forgacs, G., Hudson, L.G. and **Stack, M.S.** (2009) Microenvironmental Regulation of Ovarian Cancer Metastasis, in Ovarian Cancer; **Stack M.S.** and Fishman, D.A., Editors. Springer, *in press*.
19. Hudson, L.G., Zeineldin, R., Silberberg, M. and **Stack, M.S.** (2009) Activated EGF Receptor in Ovarian Cancer; in Ovarian Cancer; **Stack M.S.** and Fishman, D.A., Editors. Springer, *in press*.
20. Hudson, L.G., Moss, N.M., and **Stack, M. S.** (2009) Epidermal Growth Factor Receptor Regulation of Matrix Metalloproteinases in Epithelial Ovarian Carcinoma. *Future Oncology* **5**:323-38. PMCID: PMC2709955
21. Shi Z and **Stack, M.S.** (2010) Molecules of Cell Adhesion and Extracellular Matrix Proteolysis in Oral Squamous Cell Carcinoma. *Histology Histopathology* **25**:917-932.
22. Zeineldin, R., Muller C.Y., **Stack M.S.** and Hudson L.G. (2010) Targeting the EGF Receptor for Ovarian Cancer Therapy. *J Oncology* **2010**:414676. PMCID: PMC2801454
23. Hudson, L.G. and **Stack, M.S.** Integrins and Cancer. Chapter 24 in The Tumor Microenvironment, Springer, *in press*.
24. Munshi, H.G. and **Stack, M.S.** (2010) Understanding Epithelial-Mesenchymal Transition May Reveal Novel Therapeutic Targets for Oral Squamous Cell Carcinoma, *Current Cancer Therapy Reviews* **6**: *in press*.
25. Barbolina M.V., Burkhalter R.J. and **Stack M.S.** (2011) Diverse Mechanisms for Activation of Wnt Signaling in the Ovarian Tumor Microenvironment. *Biochemical Journal*, *in press*
26. Miller D.L., **Stack M.S.** HPV and Oropharyngeal Carcinoma (Invited Review for *Biochemical Journal*, *in preparation*)

Oral Presentations at National and International Symposia:

1. **Stack, M.S.**, Gonzalez-Gronow, M., and Pizzo, S.V. (1990) Protein Components of the Extracellular Matrix Stimulate Plasminogen Activation. International Congress on Fibrinolysis; Indianapolis, IN. *Fibrinolysis* **4** (suppl.3), 81.
2. **Stack, M.S.**, Moser, T.L., and Pizzo, S.V. (1991) Extracellular Matrix Regulation of Thrombolysis. FASEB, Atlanta, GA. *FASEB Journal*, **5**, A515.
3. **Stack, M.S.**, Moser, T.L., and Pizzo, S.V. (1991) Regulation of Tissue Plasminogen Activator-Catalyzed Plasminogen Activation by Extracellular Matrix Proteins. XIIIth International Congress on Thrombosis and Haemostasis, Amsterdam, The Netherlands. *Thrombosis and Haemostasis* **65**, 722.
4. **Stack, M.S.**, Moser, T.L. and Pizzo, S.V. (1992) Intact and Degraded Matrix Proteins Regulate Plasminogen Activation. Eleventh International Congress on Fibrinolysis, Copenhagen, Denmark. *Fibrinolysis* **6** (suppl. 2), 257.
5. **Stack, M.S.** and Pizzo, S.V. (1994) The Effect of Substituted Laminin A Chain-Derived Peptides on the Activation Kinetics and Zymogen Conformation of Plasminogen. XIIth International Congress on Fibrinolysis, Leuven, Belgium. *Fibrinolysis* **8**, suppl. 1, 1.
6. **Stack, M.S.**, Young, T.N., Moser, T.L. and Pizzo, S.V. (1995) Extracellular Matrix Regulation of Metastasis-Associated Proteinases. Amer. Assoc. for Cancer Research, Toronto, Ontario, Canada. *Proceedings of the AACR* **36**, 709-710.
7. **Stack, M.S.**, Moser, T.L., Bafetti, L.M., Pizzo, S.V., and Fishman, D.A. (1996) Role of Adhesion and Proteolysis in Epithelial Ovarian Carcinoma Dissemination. XIIIth International Congress on Fibrinolysis, Barcelona, Spain. *Fibrinolysis* **10**, suppl. 3, 26.
8. Bafetti, LM, Young, TN, Itoh, Y, and **Stack, MS** (1996) Intact Vitronectin Induces Coordinate Expression of Matrix Metalloproteinase-2 and Tissue Inhibitor of Metalloproteinases-2 by Melanoma Cells. Inhibitors of Metalloproteinases Conference, Banff, Alberta, Canada.

9. Bafetti, LM and **Stack, MS** (1996) Intact Vitronectin Induces Coordinate Expression of Matrix Metalloproteinase-2 and Tissue Inhibitor of Metalloproteinases-2 in Melanoma Cells. Midwest Connective Tissue Workshop, Rush University Medical School, Chicago, IL.
10. **Stack, M.S.**, Goldfinger, L.E., and Jones, J.C.R. (1997) Post-translational Plasmin Proteolysis of Laminin-5 Regulates Hemidesmosome Assembly and Cell Motility. VIth International Workshop on the Molecular and Cellular Biology of Plasminogen Activation, San Diego, CA. Fibrinolysis & Proteolysis **11**, suppl.3, 11.
11. Moser, T.L., Pizzo, S.V., Enghild, J.J., Hubchak, S., and **Stack, M.S.** (1997) Isolation of an Angiostatin Receptor from the Membranes of Human Umbilical Vein Endothelial Cells. VIth International Workshop on the Molecular and Cellular Biology of Plasminogen Activation, San Diego, CA. Fibrinolysis & Proteolysis **11**, suppl. 3, 39.
12. Gately, S., Twardowski, P., **Stack, M.S.**, Cundiff, D.L., Grella, D, Castellino, F.J., Enghild, J., Kwaan, H.C., Lee, F., Kramer, R.A. and Soff, G.A. (1997) The Mechanism of Cancer-Mediated Conversion of Plasminogen to the Angiogenesis Inhibitor Angiostatin. VIth International Workshop on the Molecular and Cellular Biology of Plasminogen Activation, San Diego, CA. Fibrinolysis & Proteolysis **11**, suppl. 3, 39.
13. Bafetti, LM, Ellerbroek, SM and **Stack, MS** (1997) A Functional Link Between Adhesion and Proteolysis. Gordon Research Conference on *Matrix Metalloproteinases*, Plymouth, NH.
14. **Stack, MS** (1998) Angiostatin in Matrix Remodeling. 5th International Meeting of the European Vascular Biology Association, Leuven, Belgium.
15. Ellerbroek, SM, Wu, Y, and **Stack, MS** (1999) Cellular Regulation of Matrix Metalloproteinase-2 Processing. (**MS Stack**, Session Leader, Cellular Regulation Session) Gordon Research Conference on *Matrix Metalloproteinases*, New London, NH.
16. Ghosh, S., Brown, R. and **Stack, M.S.** (1999) A Functional Link between $\alpha 1$ Integrin Aggregation, uPA Expression and uPAR Localization in Premalignant Oral Epithelial Cells. International Protease Society, Mackinac Island, MI.
17. Ghosh, S. and **Stack, M.S.** (2000) Integrin Regulation of PA and MMP Expression (**MS Stack**, Session Leader, Metalloproteinases and Plasminogen Activators in Physiology and Pathology) Thrombolysis Gordon Research Conference, Ventura, CA.
18. Ellerbroek, S.M., Ghosh, S., Fishman, D.A. and **Stack, M.S.** (2000) uPA Regulation in Ovarian Cancer. 15th International Congress on Fibrinolysis and Proteolysis, Hamamatsu, Japan.
19. Ghosh, S., Wu, Y., Ellerbroek, S.M., and **Stack, M.S.** (2000) *State of the Art Lecture* "Tumor Cell Mediated Proteolysis: Regulatory Mechanisms and Functional Consequences". 15th International Congress on Fibrinolysis and Proteolysis, Hamamatsu, Japan
20. Ellerbroek, S.M., Ghosh, S., Fishman, D.A., and **Stack, M.S.** (2000) uPA Regulation in Ovarian Cancer. Satellite Symposium, 15th International Congress on Fibrinolysis and Proteolysis, Hamamatsu, Japan
21. **Stack, M.S.** (2000) Matrix Metalloproteinase Regulation in Ovarian Metastasis. Society for Gynecologic Investigation, Chicago, IL
22. Ghosh, S., Munshi, H.G., Sen, R., Green, K.G. and **Stack, M.S.** (2001) Proteinase Suppression by E-Cadherin-Mediated Cell-Cell Attachment in Premalignant Oral Keratinocytes. VIIIth International Workshop on Molecular and Cellular Biology of Plasminogen Activation, Jackson Hole, WY.
23. Wu, Y.I., Ariztia, E., Munshi, H.G., Snipas, S., Salvesen, G.S. and **Stack, M.S.** (2001) Pondering Proteolytic Potential. 2nd General Meeting of the International Proteolysis Society, Freising, Germany.
24. **Stack, M.S.** (2002) The Basic Biology of Angiostatin. at Cancer, Angiogenesis and Thrombosis Symposium, Asheville, NC.
25. **Stack, M. S.**, S. Ghosh, H.G. Munshi, S. Mukhopadhyay, R. Sen and Y. Liu. (2002) Cellular Control of Proteolytic Potential via Differential Engagement of Adhesion Receptors. American Association for Cancer Research Special Symposium on Proteases, Extracellular Matrix, and Cancer. Hilton Head, SC.

26. Wu Y.I., Munshi H.G. and **Stack, M.S.** (2003) Post-Translational Processing Broadens the Substrate Profile of MT1-MMP. Gordon Research Conference on *Matrix Metalloproteinases* (M.S. Stack, Session Leader, Collagenolysis Session), Big Sky Valley, MT.
27. Ghosh, S., Munshi, H.G., and **Stack, M.S.** (2004) Adhesion Regulated Proteinase Activity. Gordon Research Conference on *Plasminogen and Extracellular Proteolysis* (M. S. Stack, Session Chair), Ventura, CA.
28. **Stack, M.S.** (2005) Pondering the Proteolytic Potential of MT1-MMP. Pacific Coast Protease Workshop, Half Moon Bay, CA, April 2005.
29. **Stack, M.S.** (2005) American Society for Biochemistry and Molecular Biology Delegation to China (Beijing, Guangzhou, Shanghai). Proteinase Regulation in the Tumor Microenvironment; June 2005.
30. **Stack, M.S.** (2005) Mechanisms of Metastasis. Bea Schriesheim Ovarian Cancer Research Symposium, Chicago, IL, September 2005.
31. Ghosh, S., Johnson, J. and **Stack, M.S.** (2006) Functional Relevance of uPAR/Integrin Interactions in Proteinase Regulatory Pathways. Gordon Research Conference on *Plasminogen and Extracellular Proteolysis*, Ventura, CA.
32. Symowicz, J., Barbolina, M., Liu, Y., and **Stack, M.S.** (2006) Proteinase Regulation in the Ovarian Tumor Microenvironment. 18th International Congress on Fibrinolysis and Proteolysis: Proteolysis in the Postgenomic Era, San Diego CA.
33. **Stack, M.S.** (2008) Adhesion-Regulated Proteolysis in Ovarian Carcinoma. Gordon Research Conference on *Plasminogen Activation and Extracellular Proteolysis*, Ventura, CA.
34. **Stack, M.S.** (2008) Proteinase Regulation in the Ovarian Tumor Microenvironment. Gordon Research Conference on *Proteinases and Inhibitors*, New London, NH.
35. Johnson J.J., Shi Z., Frazier S., Jiang R., and **Stack M.S.** (2009) Functional Alteration of Oral Squamous Cell Carcinoma Aggressive Behavior Through uPAR-Associated Changes in Gene Expression. Second World Congress of the International Academy of Oral Oncology, Toronto, Ontario, July 2009 (oral presenter and session co-chair).
36. Johnson J.J., Shi Z., Frazier S., Jiang R., and **Stack M.S.** (2010) uPAR/Integrin Association and Altered microRNA Regulation in Oral Cancer. Gordon Research Conference on *Plasminogen Activation and Extracellular Proteolysis*, Ventura, CA, Feb. 2010 (oral presenter and session chair).
37. Moss, N.M., Liu Y., Wu Y.I. and **Stack, M.S.** (2010) Regulation of Ovarian Cancer Metastasis by Protease Cytoplasmic Tail Phosphorylation. Gordon Research Conference on *Proteolytic Enzymes and Their Inhibitors*, Il Ciocco, Italy, May 2010 (oral presenter and session chair)

Invited Seminars:

- May 1990; East Tennessee State University, Johnson City, TN, Department of Biology, “Interaction of Plasminogen with Basement Membrane Proteins”.
- May 1990; East Tennessee State University College of Medicine, Johnson City, TN, Department of Biochemistry, “Novel Regulatory Mechanisms in Fibrinolysis”.
- February 1991; University of Louisville, Louisville, KY, Department of Biochemistry, “Novel Regulatory Mechanisms in Fibrinolysis”.
- February 1992; Wright State University, Dayton, OH, Department of Biochemistry, “Novel Regulatory Mechanisms in Fibrinolysis”.
- March 1992, University of Chicago, Chicago, IL, Department of Pathology, “Interaction of Plasminogen and Plasminogen Activators with the Basement Membrane”.
- April 1993, Northwestern University, Chicago, IL, Department of Oral Biology, “Regulation of Plasminogen Activation by Components of the Extracellular Matrix”.
- August 1993, University of Kentucky, Lexington, KY, Department of Biochemistry, “Extracellular Matrix Regulation of Metastasis-Associated Proteinases”.

October 1993, Vanderbilt University, Nashville, TN, Department of Pathology, “Extracellular Matrix Regulation of Metastasis-Associated Proteinases”.

December 1993, Northwestern University, Chicago, IL, Department of Obstetrics and Gynecology, “Extracellular Matrix Regulation of Melanoma and Ovarian Carcinoma-Associated Proteinases”.

May 1994, East Tennessee State University College of Medicine, Johnson City, TN, Department of Biochemistry, “Extracellular Matrix Regulation of Metastasis-Associated Proteinases”.

May 1994, National Institutes of Health Institute of Dental Research, Bethesda, MD, “Extracellular Matrix Regulation of Metastasis-Associated Proteinases”.

March 1995 Northwestern University, Chicago, IL, Adhesion, Motility and Angiogenesis Group, “Surface Regulation of Metastasis- Associated Proteinases”.

April 1995, Keynote Speaker, 11th Annual Student Research Forum, East Tennessee State University, Johnson City, TN “Adhesion and Proteolysis in Epithelial Ovarian Carcinoma”.

April 1995, East Tennessee State University College of Medicine, Department of Biochemistry, Johnson City, TN, “Surface Regulation of Tumor Cell-associated Proteinase Activity”.

April 1995, American Association for Cancer Research, Toronto, Ontario, “Extracellular Matrix Regulation of Metastasis-Associated Proteinases”.

May 1995, Duke University Medical Center, Durham, NC, Department of Cell Biology Seminar Series on the Molecular Basis of Cell Migration, “Proteolysis in Invasion”.

October 1995, Upjohn Co., Kalamazoo, MI, “Surface Regulation of Metastasis-Associated Proteinases”

February 1996, University of Kansas Medical School, Kansas City, KS, Department of Biochemistry, “Surface Regulation of Metastasis-Associated Proteinases”

February 1996, Abbott Laboratories Distinguished Lecture Series, Abbott Park, IL, “Surface Regulation of Metastasis-Associated Proteinases”

March 1996, University of Illinois Dental School, Chicago, IL, Department of Oral Biology, “Surface Regulation of Metastasis-Associated Proteinases”

November 1996, University of Louisville, Louisville, KY, Department of Biochemistry, “Surface Regulation of Metastasis-Associated Proteinases”

December 1996, Northwestern University, Chicago, IL, Tumor Cell Biology Lecture Series, “Surface Regulation of Metastasis-Associated Proteinases”

January 1997, Monsanto Corp., St. Louis, MO, “Surface Regulation of Metastasis-Associated Proteinases”

August 1997, Matrix Metalloproteinase Gordon Conference, Plymouth, NH, “A Functional Link Between Adhesion and Proteolysis”

December 1997, Abbott Laboratories, Abbott Park, IL, “Angiostatin and Proteolysis”

March 1998, Harvard University, Cambridge, MA, “Angiostatin and Proteolysis”

March 1998, SUNY, Stony Brook, NY, “Matrix Regulation of Metastasis-Associated Proteinases”

April 1998, Northwestern University, Chicago, IL, Reproductive Genetics Series, “Regulation of Ovarian Carcinoma Metastasis”

April 1998, Ontario Cancer Institute, Toronto, Ontario, “Matrix Regulation of Metastasis-Associated Proteinases”

May 1998, 5th Annual Meeting of the European Vascular Biology Association, Leuven, Belgium, “Angiostatin in Matrix Remodeling”

May 1998, University of East Anglia, Norfolk, England, “Matrix Regulation of Metastasis-Associated Proteinases”

December 1998, Northwestern University Cancer Center, Chicago, IL “Tumor Cell-Mediated Proteolysis: Regulatory Mechanisms and Functional Consequences”.

February 1999, Northwestern University Pathology Department, Chicago, IL “Regulation of Ovarian Carcinoma Metastasis”

August 1999, Matrix Metalloproteinase Gordon Conference, New London, NH, **(Session Chair)** Cellular Regulation Session, “Cellular Regulation of Matrix Metalloproteinase-2 Processing”

November 1999, Monsanto, St. Louis, MO, "Integrin Regulation of Metastasis-Associated Proteinases"

December 1999, Arkansas Cancer Research Forum, Little Rock, AK, "Tumor Cell Mediated Proteolysis: Regulatory Mechanisms and Functional Consequences"

January 2000, Gordon Research Conference on Thrombolysis, Ventura, CA, "Integrin Regulation of PA and MMP Expression" (**Session Chair**)

April 2000, Notre Dame University, Notre Dame, IN, "Matrix Regulation of Metastasis-Associated Proteinases"

April 2000, University of North Carolina, Chapel Hill, NC, "Tumor Cell-Mediated Proteolysis: Regulatory Mechanisms and Functional Consequences"

April 2000, Duke University, Durham, NC, "Tumor Cell-Mediated Proteolysis: Regulatory Mechanisms and Functional Consequences"

February 2002, Wake Forest University, Winston-Salem, NC, "Pondering Proteolytic Potential"

March 2002, Wayne State University Medical Center, Detroit, MI, "Pondering Proteolytic Potential"

April 2002, University of Minnesota Medical School, Minneapolis, MN, "Pondering Proteolytic Potential"

June 2002, Yale University Medical School, New Haven, CT, "Pondering Proteolytic Potential"

September 2002, M.D. Anderson Comprehensive Cancer Center, University of Texas, Houston, TX, "Pondering Proteolytic Potential"

March 2003, Florida State University, Tallahassee, FL, "Pondering Proteolytic Potential"

August 2003, Gordon Research Conference on Matrix Metalloproteinases, Big Sky Valley, MT, "Post-Translational Processing by Glycosylation Broadens the Substrate Profile of MT1-MMP" (**Session Chair**)

November 2003, University of Illinois, Department of Pharmacology, Chicago, IL, "Adhesion Regulated Proteinase Activity"

December 2003, Fox Chase Comprehensive Cancer Center, Philadelphia, PA, "Proteinase Regulation in the Ovarian Tumor Microenvironment"

February 2004, Gordon Research Conference on Plasminogen and Extracellular Proteolysis, Ventura, CA, "Adhesion Regulated Proteinase Activity" (**Session Chair**)

June 2004, Duke University, Department of Pathology, Durham, NC, "Pondering Proteolytic Potential" (in Symposium "D-Dimer and Beyond" in honor of S.V. Pizzo)

December 2004, University of Illinois, Chicago, IL, "Proteinase Regulation in Oral Cancer"

January 2005, Evanston/Northwestern Healthcare, Evanston, IL, "Proteinase Regulation in the Ovarian Tumor Microenvironment"

January 2005, University of North Carolina, Chapel Hill, NC "Proteinase Regulation in Oral Squamous Cell Carcinoma"

March 2005, University College London Kennedy Institute of Rheumatology, London, UK, "Proteinase Regulation in the Tumor Microenvironment"

May 2005, Rush University Medical Center, Chicago, IL, "Proteinase Regulation in the Tumor Microenvironment"

May 2005, Medical University of SC, Charleston, SC, "Proteinase Regulation in the Tumor Microenvironment"

September 2005, University of Missouri, Columbia, MO, "Proteinase Regulation in the Tumor Microenvironment"

December 2005, Medical College of Georgia, Augusta, GA "Proteinase Regulation in the Tumor Microenvironment"

December 2005, Wake Forest University, Winston-Salem, NC, "Proteinase Regulation in the Tumor Microenvironment"

January 2006, Evanston Northwestern Healthcare, Evanston, IL "Proteinase Regulation in the Ovarian Tumor Microenvironment"

February 2006, University of New Mexico, Albuquerque, NM "Proteinase Regulation in the Ovarian Tumor Microenvironment"

April 2006, Loyola University, Chicago, IL "Proteinase Regulation in the Tumor Microenvironment"

May 2006, University of Illinois, Champagne-Urbana, IL "Proteinase Regulation in the Tumor Microenvironment"

April 2007, University of Maryland, Baltimore, MD "Proteinase Regulation in the Ovarian Tumor Microenvironment"

May 2007, University of Missouri, School of Veterinary Medicine, "Proteinase Regulation in the Ovarian Tumor Microenvironment"

May 2007, University of Missouri, School of Medicine, Department of Dermatology Research In Progress Seminars, "Proteinase Regulation in Oral Squamous Cell Carcinoma"

January 2008, University of Illinois, Chicago, Oral Cancer Center, "Adhesion-Regulated Proteolysis in Oral Squamous Cell Carcinoma"

February 2008, Barts and The London School of Medicine and Dentistry, Centre for Cancer and Inflammation, "Proteinase Regulation in the Ovarian Tumor Microenvironment"

April 2008, Appalachian Student Research Forum (Keynote Speaker), Johnson City, TN, "Proteinase Regulation in the Ovarian Tumor Microenvironment"

April 2008, East Tennessee State University, Department of Biochemistry, Johnson City, TN, "Adhesion Regulated Proteolysis in Oral Squamous Cell Carcinoma"

November 2008, MD Anderson Cancer Center, University of Texas, Houston, TX, Department of Cancer Biology, "Proteinase Regulation in the Ovarian Tumor Microenvironment"

February 2009, Meharry Medical College, Nashville, TN, Departments of Cancer Biology and Neurobiology/Neurotoxicology, "Proteinase Regulation in the Ovarian Tumor Microenvironment"

February 2009, University of Missouri, Columbia, MO, Cardiovascular Day, "Proteinase Regulation in the Ovarian Tumor Microenvironment"

April 2010, University of Missouri Post-Doctoral Association discussion group, Columbia, MO "When and How to Say NO"

May 2010, University of Notre Dame, Notre Dame, IN "Regulation of Adhesion and Proteolysis in the Tumor Microenvironment"