

CURRICULUM VITAE

John F. Harms

CONTACT INFORMATION:

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EDUCATION:

A.S., Mathematics and Science, Trustee Award, 1994.
Jamestown Community College, Jamestown, NY.

B.S., Recombinant Gene Technology, *Summa cum laude*, 1996.
State University of New York College at Fredonia, Fredonia, NY.

Ph.D., Integrative Biosciences: Option in Molecular Medicine, 2002.
The Pennsylvania State University College of Medicine, Hershey, PA.

PROFESSIONAL EXPERIENCE:

1994 – 1995 Research Aide, Research Foundation of the State University of New York.
Chautauqua Lake Diagnostic/Feasibility Project.

1993 – 1996 Computer Programmer, Research and Development Department.
Valeo Engine Cooling, Inc, Jamestown, NY.

1996 – 2002 Graduate Fellow, Integrative Biosciences Graduate Program, Option in Molecular
Medicine. The Pennsylvania State University College of Medicine, Hershey, PA.
Dissertation: Organ-Specific Suppression of Cancer Metastasis.
Research advisor: Danny R. Welch, Ph.D.

2002 – 2006 Postdoctoral Fellow, Department of Medicine, Division of Gastroenterology &
Hepatology. The Pennsylvania State University College of Medicine, Hershey, PA.
Research advisor: Jill P. Smith, M.D.

2003 – 2005 Adjunct Instructor in Microbiology, Department of Biological Sciences.
Messiah College, Grantham, PA.

2006 – Assistant Professor of Biology, Department of Biological Sciences.
Messiah College, Grantham, PA.

2006 – Adjunct Assistant Professor of Medicine, Department of Medicine, Division of
Gastroenterology & Hepatology. The Pennsylvania State University College of
Medicine, Hershey, PA.

SCHOLARSHIPS AND FELLOWSHIPS:

- 1992 – 1994 Jamestown Community College, full tuition U.S.A. Scholarship, 1992-1994.
1994 – 1996 State University of New York College at Fredonia & Chautauqua Regional Foundation, Seager Presidential Scholarship.
1996, 1997 Chautauqua Regional Foundation, Ellsworth-Weston Scholarship.
1996 – 1998 The Pennsylvania State University, Life Sciences Consortium Fellowship.
1998 Chautauqua Regional Foundation, Hubert D. & Adelaide E. Tompkins Scholarship.
2004 – 2007 American Cancer Society Postdoctoral Fellowship.

HONORS AND AWARDS:

- 1999 Participant, American Association for Cancer Research Pathobiology of Cancer Workshop.
2000 Brigid G. Leventhal Scholar in Cancer Research, American Association for Cancer Research – Women in Cancer Research.
2002 Scholar-in-Training Award, American Association for Cancer Research – Novartis.
2002 Trainee Award, Metastasis Research Society.
2004 First Place, Basic Research, Simon Komarov Gastroenterology Fellows Research Competition, Temple University Hospital.

PROFESSIONAL SOCIETIES:

- 1998 – American Association for Cancer Research
1999 – Women in Cancer Research
1999 – Metastasis Research Society
2004 – American Pancreatic Association
2005 – Penn State Cancer Institute

PROFESSIONAL ACTIVITIES:

- 2001 – 2002 Institutional Review Board, Penn State College of Medicine.
2003 – Regular Reviewer: (approximate number of reviews per year)
Clinical and Experimental Metastasis (2)
2003 – Occasional Reviewer: (averages less than one review per year)
Clinical Cancer Research
Cancer Research

GRANT SUPPORT:

- 2004 – 2006 American Cancer Society, PF-04-104-01-CSM. The CCK-C Receptor and Pancreatic Cancer Aggressiveness. Principle Investigator. Postdoctoral Fellowship.

PUBLICATIONS:

RESEARCH PAPERS:

Welch DR, Harms JF, Goldberg SF, Meehan WJ, Seraj MJ, Leonard TO, Samant RS, Miele ME, Lee J-H, Hicks DJ. 1999. Identifying and characterizing metastasis-suppressor genes in human cancer. *Biological Approaches to Cancer Therapy* 1: 32-38.

Harms JF*, Goldberg SF*, Quon K, Welch DR. 1999. Metastasis-suppressed C8161 melanoma cells arrest in lung but fail to proliferate. *Clinical and Experimental Metastasis* 17(7):601-607.

**Contributed equally to this paper.* (although dated 1999, actually submitted and published 2000)

Samant RS, Seraj MJ, Saunders MM, Sakamaki T, Shevde LA, Harms JF, Leonard TO, Goldberg SF, Budgeon LR, Meehan WJ, Winter CR, Christensen ND, Verderame MF, Donahue HJ, Welch DR. 2001. Analysis of mechanisms underlying BRMS1 suppression of metastasis. *Clinical and Experimental Metastasis* 18(8):683-693.

Harms JF, Budgeon L, Christensen ND, Welch DR. 2002. Maintaining GFP tissue fluorescence through bone decalcification and long-term storage. *BioTechniques* 33(6):1197-1200.

Harms JF, Welch DR. 2003. MDA-MB-435 human breast carcinoma metastasis to bone. *Clinical and Experimental Metastasis* 20(4): 327-334.

Manni A, Washington S, Craig L, Cloud M, Griffith JW, Verderame MF, Texter LJ, Mauger DT, Demers LM, Harms JF, Welch DR. 2003. Effects of α -difluoromethylornithine on local recurrence and pulmonary metastasis from MDA-MB-435 breast cancer xenografts in nude mice. *Clinical and Experimental Metastasis* 20(4): 321-325.

Harms JF, Welch DR, Samant RS, Shevde LA, Miele ME, Babu GR, Goldberg SF, Gilman VR, Sosnowski DM, Campo DA, Gay CV, Budgeon LR, Mercer R, Jewell J, Mastro AM, Donahue HJ, Erin N, Debies MT, Meehan WJ, Jones AL, Mbalaviele G, Nickols A, Christensen ND, Melly R, Beck LN, Kent J, Rader RK, Kotyk JJ, Pagel MD, Westlin WF, Griggs DW. 2004. A small molecule antagonist of the $\alpha v \beta 3$ Integrin suppresses MDA-MB-435 skeletal metastasis. *Clinical and Experimental Metastasis* 21(2): 119-128.

Lugassy C, Kleinman HK, Engbring JA, Welch DR, Harms JF, Rufner R, Fernandez PM, Patierno SR, Barnhill RL. 2004. Pericyte-like location of GFP melanoma cells: Ex vivo and in vivo studies of extravascular migratory metastasis. *American Journal of Pathology* 164(4):1191-1198.

Koblinski JE, Kaplan-Singer B, VanOsdol S, Wu M, Engbring JE, Wang S, Goldsmith C, Piper JT, Vostal JG, Harms JF, Welch DR, Kleinman H. 2005. Endogenous osteonectin/SPARC/BM-40 expression inhibits MDA-MB-231 breast cancer metastasis. *Cancer Research* 65(15):7370-7377.

Phadke PA, Mercer RR, Harms JF, Jia Y, Kappes JC, Frost AR, Jewell JL, Bussard KM, Nelson S, Moore C, Gay CV, Mastro AM, Welch DR. 2005. Kinetics of metastatic breast cancer cell trafficking in bone. *Clinical Cancer Research* 12(5): 1431-1440.

Harms JF*, Matters GL*, Fitzpatrick L, Parikh A, Nilo N, Smith JP. The opioid antagonist Naltrexone alleviates chemically-induced colitis. *Submitted.*

**Contributed equally to this paper.*

REVIEWS:

Harms JF, Welch DR, Miele, ME. 2003. KISS1 metastasis suppression and emergent pathways. *Clinical and Experimental Metastasis* 20(1): 11-18.

Welch DR, Harms JF, Mastro AM, Gay CV, Donahue HJ. 2003. Breast cancer metastasis to bone: Evolving models and research challenges. *Journal of Musculoskeletal and Neuronal Interactions* 3(1):30-38.

BOOK CHAPTERS:

Harms JF and Welch DR. The role of KISS1 in melanoma metastasis suppression. In: *Cancer Metastasis-Related Genes*. DR. Welch, ed. Series: Cancer Metastasis: Biology and Treatment, edited by R.J. Ablin and W.G. Jiang. Dordrecht, The Netherlands: Kluwer Academic Publishers 2001. pp. 223-236.

ABSTRACTS:

Harms JF, Goldberg SF, Verderame MF, Welch DR. C8161 melanoma cells suppressed for metastasis form micrometastases but fail to proliferate. 11th Annual Graduate Research Forum. Pennsylvania State University College of Medicine (Hershey, PA). March, 1999.

Welch, DR, Harms JF, Goldberg SF, Meehan WJ, Seraj MJ, Leonard TO, Samant RS, Miele ME, Lee JH, Hicks DJ. Identifying and characterizing metastasis-suppressor genes in human cancer. *Proceedings of the First Biological Approaches to Cancer Treatment (BACT) International Symposium (1999)* 1: 32-38.

Welch DR, Seraj MJ, Samant RS, Leonard TO, Harms JF, Verderame MF. BrMS1 – A human breast cancer metastasis-suppressor gene encoded on chromosome 11q13.1-q13.2. *Clinical Cancer Research* 5:66.

Harms JF, Goldberg SF, Welch DR. Metastasis-suppression: Altered response to the lung micro-environment? 12th Annual Graduate Research Forum. Pennsylvania State University College of Medicine (Hershey, PA). March, 2000.

Harms JF, Goldberg SF, Quon K, Welch DR. Metastasis-suppressed C8161 melanoma cells arrest in lung but fail to proliferate. *Proceedings of the American Association for Cancer Research (2000)* 41:230. (San Francisco, CA). April, 2000.

Samant RS, Seraj MJ, Meehan WJ, Harms JF, Leonard TO, Shevde LA, Sakamaki T, Winter CR, Verderame MF, Welch DR. BrMS1 – a human breast carcinoma metastasis-suppressor gene. *Proceedings of the American Association for Cancer Research (2000)* 41:873. (San Francisco, CA). April, 2000.

Samant RS, Seraj MJ, Shevde LA, Sakamaki T, Meehan WJ, Leonard TO, Harms JF, Winter CR, Debies MT, Verderame MF, Welch DR. BRMS1-a novel human breast cancer metastasis-suppressor gene. 3rd Annual Regional Cancer Center Consortium for Biological Therapy of Cancer. (2000) 3:16.

Seraj MJ, Samant RS, Shevde LA, Saunders MM, Sakamaki T, Meehan WJ, Donahue HJ, Debies MT, Budgeon L, Leonard TO, Harms JF, Christensen ND, Winter CR, Verderame MF, Welch DR. BRMS1- a human breast cancer metastasis suppressor gene encoded on chromosome 11q13.1-q13.2. Era of Hope – Department of Defense Breast Cancer Research Program Meeting (2000) 1: 111-112.

Welch DR, Goldberg SF, Harms JF, Brown LM, Rannels DE, Rannels SR. Melanoma metastasis determined by host microenvironment. *Programme and Abstracts of the VIII International Congress of the Metastasis Research Society. Clinical and Experimental Metastasis* 17(9): 735. (Imperial College, Kensington, London UK). September, 2000.

Kotyk JJ, Harms JF, Settle SL, Rader RK, Mbalaviele G, Griggs DW, Westlin WF, Welch DR. Ex vivo and in vivo evaluations of osteolytic metastases in mice: Comparison of MRI, bone mineral density, and fluorescent microscopy. International Society for Magnetic Resonance in Medicine 9th Scientific Meeting. (Glasgow, Scotland, UK) April, 2001.

Harms JF, Welch DR. Organ-specific melanoma metastasis suppression? The Japanese Association for Metastasis Research. June, 2001.

Harms JF, Mastro AM, Gay CV, Welch DR. Enhancing detection sensitivity of skeletal metastases with green fluorescent protein. American Society for Bone and Mineral Research 23rd Annual Meeting. (Phoenix, AZ) October, 2001.

Harms JF, Miele ME, Welch DR. Metastasis suppression of C8161 human melanoma cells by chromosome 6 appears to be organ specific. Proceedings of the American Association for Cancer Research (2002) 43: 138-139. (San Francisco, CA). April, 2002.

Harms JF, Mastro AM, Gay CV, Donahue HJ, Welch DR. Detailing the spectrum of MDA-MB-435 breast carcinoma metastasis to bone while enhancing detection sensitivity with green fluorescent protein. Proceedings of the American Association for Cancer Research (2002) 43: 1057. (San Francisco, CA). April, 2002.

Mastro AM, Gay CV, Welch DR, Donahue HJ, Jewell JL, Harms JF. A role for osteoblast apoptosis in breast cancer osteolytic metastasis. Proceedings of the American Association for Cancer Research (2002) 43: 316. (San Francisco, CA). April, 2002.

Welch DR, Harms JF, Samant RS, Babu G, Gay CV, Mastro AM, Donahue HJ, Griggs DW, Kotyk JJ, Pagel MD, Rader RK, Westlin WF. The small molecule $\alpha\beta 3$ antagonist (S247) inhibits MDA-MB-435 breast cancer metastasis to bone. 3rd North American Symposium on Skeletal Complications of Malignancy. Oncology (2003) 17:18 (Bethesda, MD) April, 2002.

Miele ME, Jewett MD, Paquette-Straub CA, Goldberg SF, Harms JF, Babu GR, Morelli C, Gualandi F, Rimessi P, Barbanti-Brodano G, Welch DR. Mapping the melanoma metastasis suppressor locus of human chromosome 6. Programme and Abstracts of the IX International Congress of the Metastasis Research Society. Clinical and Experimental Metastasis 19(S1): 35. (Chicago, IL). September, 2002.

Mastro AM, Gay CV, Welch DR, Donahue HJ, Jewell JL, Harms JF. A role for osteoblast apoptosis in breast cancer osteolytic metastasis. Programme and Abstracts of the IX International Congress of the Metastasis Research Society. Clinical and Experimental Metastasis 19(S1): 47. (Chicago, IL). September, 2002.

Harms JF, Miele ME, Paquette-Straub CA, Welch DR. Metastasis suppression of C8161 human melanoma cells by chromosome 6 appears organ-specific. Programme and Abstracts of the IX International Congress of the Metastasis Research Society. Clinical and Experimental Metastasis 19(S1): 55. (Chicago, IL). September, 2002.

Manni A, Washington S, Craig LS, Cloud MJ, Griffith JW, Verderame MF, Texter LJ, Mauger DT, Demers LM, Harms JF, Welch DR. Polyamine (PA) involvement in the development of pulmonary metastasis from hormone-independent breast cancer xenografts in nude mice. Proceedings of the American Association for Cancer Research (2003) 44: 82. (Washington, D.C.). July, 2003.

Welch DR, Goldberg SF, Harms JF, Miele ME. Metastasis suppressor genes in human melanoma. Reviews in Oncology. 4(1): 21-22.

Lugassy C, Kleinman HK, Engbring JA, Welch DR, Harms JF, Rufner R, Fernandez PM, Patierno SR, Barnhill RL. Angiotropism and Pericytic-Like Location of GFP melanoma cells: Ex vivo and in vivo studies of Extravascular Migratory Metastasis. *Journal of Investigative Dermatology* (2003) 121: 150.

Harms JF, Turner JM, Smith ZP, Stanley WB, Matters GL, Smith JP. Inhibition of gastrin expression decreases metastatic potential of human pancreatic cancer cells. Simon Komarov Gastroenterology Fellows Research Competition, Temple University Hospital. (Philadelphia, PA). May, 2004.

Smith JP, Turner JM, Harms JF, Smith ZP, Stanley WB, Matters GL, Zagon IS. Loss of gastrin expression in human pancreatic cancer cells decreases the incidence of metastases. AACR - Lustgarten Foundation for Pancreatic Cancer Research Joint Conference. Pancreatic Cancer 2004: Advances and Challenges. (San Francisco, CA). June, 2004.

Harms JF, Nelson MC, Turner JM, Smith ZP, Stanley WB, Matters GL, Smith JP. Decreased gastrin expression reduces the growth and metastasis of human pancreatic cancer cells. *Pancreas* (2004) 29: 362-363. (Chicago, IL). November, 2004.

Matters GL, Harms JF, Fitzpatrick LR, Parikh AM, Nilo NJ, Smith JP. The opioid antagonist naltrexone alleviates chemically-induced colitis. *Digestive Disease Week* (Los Angeles, CA). May, 2006.

INVITED PRESENTATIONS:

When cancer spreads: Understanding the genetics of metastasis. Pennsylvania Society for Biomedical Research, Rx for Science Literacy. Secondary educator and student workshops: October 2000, November 2001, March 2002.

Case study: The search for metastasis suppressor genes. Lower Dauphin High School, AP Biology, January 2001.

Cancer metastasis and the search for clinical markers. Pennsylvania Society for Biomedical Research, Rx for Science Literacy, Secondary educator and student workshops: April 2003, April 2003, November 2003, May 2004.

Identification of mechanisms and markers of cancer progression and metastasis. Pennsylvania Society for Biomedical Research, Rx for Science Literacy. Secondary educator and student workshops: October 2005, November 2005, February 2006, April 2006.

Efforts Toward the Understanding and Detection of Pancreatic Cancer. American Cancer Society Survivors Conference, The Road Ahead. Lancaster, PA. April 2006.