

**BIOGRAPHICAL SKETCH**

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NAME: Haffty, Bruce G

eRA COMMONS USER NAME (credential, e.g., agency login): haffty

POSITION TITLE: Professor and Chair

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Massachusetts, Amherst, MA	B.S.	05/72	Chemistry
Worcester Polytechnic Institute, Worcester, MA	M.S.	05/75	Biomedical Engineering
Yale University School of Medicine, New Haven, CT	M.D.	05/84	Medicine

**A. Personal Statement**

I have more than 30 years of training and research experience in radiation oncology and clinical studies of breast cancer, head and neck cancers and other malignancies with extensive experience in conducting clinical trials and translational research. I serve as Co-PI of several ongoing national clinical trials. Several of our radiation oncology investigator initiated trials have successfully completed accrual and paved the way for national cooperative group trials. My laboratory is devoted to novel molecular targets in radiation therapy for cancers and we have a number of ongoing clinical and laboratory investigations related to radiation treatment of breast and other malignancies. I have mentored numerous trainees and junior faculty in clinical trials and outcomes research. I currently serve as Deputy Editor of the Journal of Clinical Oncology and Associate Vice Chancellor for Cancer Program at Rutgers Biomedical and Health Sciences.

**B. Positions, Scientific Appointments, and Honors**

March 2023	Honorary Member, European Society of Radiology
July 2022	Honorary Member, Spanish Society of Radiology
July 2021	American Cancer Society of New Jersey Medical Honoree
2021 - 2022	RSNA President
2020	RSNA Board of Directors Chair
2020	ASTRO, Gold Medal
2020	Fellow, American Society Clinical Oncology (FASCO)
October 2020	Inaugural RBHS Chancellor Clinical / Health Care Excellence Award
2019 – Present	Associate Vice Chancellor Cancer Programs, Rutgers Biomedical and Health Sciences
2018-Present	Deputy Editor, Journal of Clinical Oncology
07/31/2017	Honorary Member American Association Physics Medicine
11/4/2016	Distinguished Service Award from the Melvyn Motolinsky Research Foundation
2014 - 15	American Society for Radiation Oncology, Chair of Board
2013 - 2014	American Society for Radiation Oncology, President
2013	Fellow, American College of Radiology (FACR)

2013 Radiological Society of North America Outstanding Educator of the Year  
2011 New York Roentgen Society Distinguished Radiation Oncologist  
2010 - 2012 President, American Board of Radiology  
2009 Annual Oration-RSNA  
2009 Norman H Edelman Clinical Science Mentoring Award,  
Robert Wood Johnson Medical School  
2009 Radiological Society of North America Annual Oration in Radiation Oncology  
2008 CINJ, Leadership in Patient Care Award  
2008 Fellow, American Society of Radiation Oncology (ASTRO)  
11/08 - Present Professor & Chair, Dept. of Radiation Oncology, New Jersey Medical School,  
Rutgers, The State University of New Jersey, Newark, NJ  
2008 - 2009 President American Radium Society  
2007 - 2017 Associate Editor, Journal of Clinical Oncology  
2007 - 2010 Chair, Residency Review Committee Radiation Oncology  
02/05 - Present Professor and Chair, Dept. of Radiation Oncology, Cancer Institute of New Jersey  
and Robert Wood Johnson Medical School,  
Rutgers, The State University of New Jersey, New Brunswick, NJ  
2005 - 2013 Trustee, American Board of Radiology  
2001 - 2021 Listed in *America's Top Doctors*, Castle Connolly  
07/00 - 08/05 Professor, Department of Therapeutic Radiology,  
Yale School of Medicine, New Haven, CT  
07/92 - 06/00 Associate Professor, Department of Therapeutic Radiology,  
Yale School of Medicine, New Haven, CT  
07/88 - 06/92 Assistant Professor, Department of Therapeutic Radiology,  
Yale School of Medicine, New Haven, CT  
07/87 - 06/88 Instructor, Department of Therapeutic Radiology,  
Yale School of Medicine, New Haven, CT  
07/87 - 06/88 Chief Resident, Department of Therapeutic Radiology,  
Yale-New Haven Hospital, New Haven, CT  
07/85 - 06/87 Resident, Department of Therapeutic Radiology,  
Yale-New Haven Hospital, New Haven, CT  
07/84 - 06/85 Assistant Resident, Department Internal Medicine,  
Yale-New Haven Hospital, New Haven, CT  
1984 The Merck Award-Yale Medical School  
1975 National Science Foundation Student Originated Studies Award

### C. Contributions to Science

I have a long and successful track record of translational research and clinical outcomes in breast cancer. My early career focused on breast cancer in young women and how outcomes were affected by BRCA1/2 status. When BRCA1/2 were first identified in the 1990's there was little information regarding how the BRCA status was related to clinical outcome, and in particular local-regional relapse. My laboratory was one of the first to address this issue. This research resulted in several high impact publications related to outcomes in women with BRCA1/2 mutations undergoing breast conserving surgery and radiation or mastectomy. I served as principle investigator of the majority of these studies.

- a) **Haffty BG**, Harrold E, Khan AJ, Pathare P, Smith TE, Turner BC, Glazer PM, Carter D, Ward BA, Matloff E, Bale AE, Alvarez-Franco M. (2002) Outcome of conservatively managed early-onset breast cancer by BRCA1/BRCA2 status. *Lancet* 359:1471-1477.
- b) Choi DH, Lee MH, Bale AE, Carer D, **Haffty BG**. (2004) Incidence of BRCA1 and BRCA2 mutations in young Korean breast cancer patients. *J Clin Oncol* 1;22(9):1638-45.
- c) Pierce LJ, Levin AM, Rebbeck TR, Ben-David MA, Friedman E, Solin LJ, Harris EE, Gaffney DK, **Haffty BG**, Dawson LA, Narod SA, Olivotto IA, Eisen A, Whelan TJ, Olopade OI, Isaacs C, Merajver SD, Wong JS, Garber JE, Weber BL. (2006) Ten-year multi-institutional results of breast-conserving surgery and radiotherapy in BRCA1/2-associated stage I/II breast cancer. *J Clin Oncol*. 2006 Jun 1;24(16):2437-43.
- d) Haffty BG, Euhus D, Pierce LJ, Genetic Factors in the Local-Regional Management of Breast Cancer, *J. Clin Oncol*. 2020 Jul 10;38(20):2220-2229. doi: 10.1200/JCO.19.02859.

Our laboratory has focused much of its activity on breast cancer and molecular pathways of radiation resistance. This is particularly problematic in triple negative breast cancers which have been shown to have high local recurrence rates. In collaboration with other laboratories, we demonstrated that those triple negative breast cancers with loss of 53BP1 are associated with relatively higher radiation resistance as well as resistance to other DNA damaging agents. These studies were also corroborated by others. In addition, in a clinical correlative study, we demonstrated that those triple negative breast cancers with loss of 53BP1 are associated with higher local relapse rates following breast conserving surgery and radiation.

- a) Bouwman P, Aly A, Escandell JM, Pieterse M, Bartkova J, van der Gulden H, Hiddingh S, Thanasoula M, Kulkarni A, Yang Q, **Haffty BG**, Tommiska J, et al. (2010) 53BP1 loss rescues BRCA1 deficiency and is associated with triple-negative and BRCA-mutated breast cancers. *Nat Struct Mol Biol.* 17(6):688-95.
- b) D Neboori HJ, **Haffty BG**, Wu H, Yang Q, Aly A, Goyal S, Schiff D, Moran MS, Golhar R, Chen C, Moore D, Ganesan S. (2012) Low p53 binding protein 1 (53BP1) expression is associated with increased local recurrence in breast cancer patients treated with breast-conserving surgery and radiotherapy. *Int J Radiat Oncol Biol Phys.* 1;83(5):e677-83. Epub 2012 Apr 18.

Our laboratory has made significant contributions to the identification of breast cancer metastasis genes and analysis of their clinical significance. My role in this area of research was to conduct some of the clinical correlation studies of candidate metastasis genes using clinical breast cancer samples in a tissue micro-array linked to a detailed annotated database. We provided evidence of the clinical relevance for breast cancer progression and metastasis genes that are identified based on basic science experiments. These results identified MTDH as a cancer stem cell-specific survival factor and provided an important link between tumor-initiating properties with metastatic traits. These exciting findings pave the way toward targeting cancer stem cell activities as a novel strategy for preventing and controlling metastatic cancer. In other related collaboration with Dr. Kang, we demonstrated the importance of VCAM1 in the transition of dormant bone micrometastasis to overt metastasis, and the role of Elf5 in suppressing EMT and metastasis of breast cancer.

- a) Hu G, Chong RA, Yang Q, Wei Y, Blanco MA, Li F, Reiss M, Au JL-S, **Haffty B**, and Kang Y. (2009) *MTDH* activation by 8q22 genomic gain promotes chemoresistance and metastasis of poor-prognosis breast cancer. *Cancer Cell*, 15(1):9-20. (Cover Article) PMID: PMC2676231
- b) Chakrabarti R, Hwang J, Blanco MA, Wei Y, Lukačičin M, Romano R, Smalley K, Liu S, Yang Q, Ibrahim T, Mercatali L, Amadori D, **Haffty BG**, Sinha S and Kang Y. (2012) Elf5 inhibits epithelial mesenchymal transition in mammary gland development and breast cancer metastasis by transcriptionally repressing Snail2/Slug. *Nature Cell Bio.*, 14(11):1212-22. (Cover Article). PMID: 23086238.
- c) Lu X, Mu E, Wei Y, Riethdorf S, Yang Q, Yuan M, Yan J, Hua Y, Tiede BJ, Lu X, Reiss M, **Haffty BG**, Pantel K, Massagué J, and Kang Y. (2011) VCAM1 promotes osteolytic expansion of indolent bone micrometastases of breast cancer by engaging  $\alpha 4\beta 1$ -positive osteoclast progenitors. *Cancer Cell* 20:701-14. (Featured Article) PMID: PMC3241854.
- d) Wan L, Lu X, Yuan S, Wei Y, Guo F, Shen M, Yuan M, Chakrabarti R, Hua YSmith HA, Blanco MA, Chekmareva M, Wu H, Zheng A, Bronson RT, **Haffty BG**, Xing Y, and Kang Y. (2014) MTDH-SND1 interaction is essential for the expansion and activity of tumor-initiating cells in diverse oncogene- and carcinogen-induced mammary tumors. *Cancer Cell*, 26(1):92-105. PMID: PMC4101059.

#### Complete List of Published Work in PubMed (a total of more than 470 publications):

<http://www.ncbi.nlm.nih.gov/pubmed/?term=Bruce+Haffty>