

CURRICULUM VITAE FOR ACADEMIC PROMOTION

The Johns Hopkins University School of Medicine

Tuesday, November 03, 2009

Angelo M. De Marzo

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments:

- Professor of Pathology, Urology and Oncology, The Johns Hopkins University School of Medicine, October 2008
- Director: [Tissue Microarray Core Facility](#)
- Associate Director of Cancer Research Pathology, July 2005
- Hospital Privileges in Genitourinary Surgical Pathology, and Autopsy Pathology, The Johns Hopkins Hospital

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Education and Training:

Undergraduate

1987 BA, University of Colorado at Boulder, Molecular, Cellular & Developmental Biology and Psychology

Doctoral/graduate

1994 MD PhD, University of Colorado Health Sciences Center, Denver CO. PhD in Experimental Pathology (Dean P. Edwards, PhD Research Mentor)

Postdoctoral

1994-1995 Intern in Anatomic Pathology, The Johns Hopkins University School of Medicine
1995-1996 Resident in Anatomic Pathology, The Johns Hopkins University School of Medicine
1996-1997 Chief Resident in Pathology, The Johns Hopkins University School of Medicine
1997-1998 Research Fellow in The [Brady Urological Institute](#), The Johns Hopkins University School of Medicine (Donald S. Coffey PhD Research Mentor)

Professional Experience:

1998-1999 Instructor of Pathology, the Johns Hopkins University School of Medicine

1999-2002 Assistant Professor of Pathology, Oncology and Urology, The Johns Hopkins University School of Medicine
2002-2008 Associate Professor of Pathology, Oncology and Urology, The Johns Hopkins University School of Medicine

RESEARCH ACTIVITIES

Primary Peer Reviewed Publications:

1. Miller GJ, and **De Marzo AM**. Ultrastructural localization of alkaline phosphatase and matrix vesicles in the swarm rat chondrosarcoma: their role in cartilage calcification. [Bone, 9:235-241, 1988.](#)
2. Christensen K, Estes PA, Oñate SA, Beck CA, **DeMarzo A**, Altmann M, Lieberman BA, St-John J, Nordeen SK, and Edwards DP. Characterization and functional properties of the A and B forms of human progesterone receptors synthesized in a baculovirus system. [Mol Endocrinol, 5:1755-1770, 1991.](#)
3. **DeMarzo AM**, Beck CA, Oñate SA, and Edwards DP. Dimerization of mammalian progesterone receptors occurs in the absence of DNA and is related to the release of the 90-kDa heat shock protein. [Proc. Natl. Acad. Sci. USA, 88:72-76, 1991.](#)
4. **DeMarzo AM**, Oñate SA, Nordeen SK, and Edwards DP. Effects of the steroid antagonist RU486 on dimerization of the human progesterone receptor. [Biochemistry, 31: 10491-10501, 1992.](#)
5. Ferreira R, Moon B, Humphries J, Sussman A, Saltz J, Miller R, and **De Marzo AM**. The Virtual Microscope. [Proc. AMIA Annu. Fall. Symp. 449-53, 1997.](#)
6. Afework A, Beynon MD, Bustamante F, Cho S, De Marzo AM, Ferreira R, Miller R, Silberman M, Saltz J, Sussman A, and Tsang H. Digital dynamic telepathology--the Virtual Microscope. [Proc AMIA Symp. 912-916, 1998.](#)
7. **De Marzo AM**, Bradshaw C, Sauvageot J, Epstein JI, and Miller GJ. CD44 and CD44v6 downregulation in clinical prostatic carcinoma: relation to Gleason grade and cytoarchitecture. [Prostate, 34: 162-168, 1998.](#)
8. **De Marzo AM**, Meeker AK, Epstein JI, and Coffey DS. Prostate stem cell compartments: Expression of the cell cycle inhibitor P27^{Kip1} in normal, hyperplastic, and cancer cells. [Am J Pathol, 153:911-917, 1998.](#)
9. **De Marzo AM**, Chan-Tack K, Knudson B, and Epstein JI. E-cadherin expression as a marker of tumor aggressiveness in routinely processed radical prostatectomy specimens. [Urology, 53: 707-713, 1999.](#)
10. **De Marzo AM**, Marchi VL, Yang E, Veeraswamy R, Lin X, and Nelson WG. Abnormal regulation of DNA methyltransferase expression during colorectal carcinogenesis. [Cancer Res, 59:3855-3860, 1999.](#)
11. Simons JW, Mikhak B, Chang J-F, **De Marzo AM**, Carducci MA, Lim M, Weber CB, Baccala AA, Goemann MA, Clift SM, Ando DG, Livitsky HI, Cohen LK, Sanda MG, Mulligan RC, Partin AW, Carter HB, Piantadosi S, Marshall FF, and Nelson WG. Induction of immunity to prostate cancer antigens: results of a clinical trial of vaccination with irradiated autologous prostate tumor cells engineered to secrete GM-CSF using ex-vivo gene transfer. [Cancer Res, 59:5160-5168, 1999.](#)
12. **De Marzo AM**, Marchi VL, Epstein JI, and Nelson WG. Proliferative inflammatory atrophy of the prostate: implications for prostatic carcinogenesis. [Am J Pathol, 155: 1985-1992, 1999.](#)
13. Zhong H, **De Marzo AM**, Laughner E, Lim M, Hilton DA, Zagzag D, Buechler P, Isaacs WB, Semenza GL, and Simons JW. Overexpression of hypoxia-inducible factor 1 alpha in common human cancers and their metastases. [Cancer Res, 59:5830-5835, 1999.](#)

14. Tchou JC, Lin X, Freije D, Isaacs WB, Brooks JD, Rashid A, **De Marzo AM**, Kanai Y, Hirohashi S, and Nelson WG. GSTP1 CpG island DNA hypermethylation in hepatocellular carcinomas. [Int J Oncol, 16:663-676, 2000.](#)
15. Halachmi S, **De Marzo¹ AM**, Chow N, Halachmi N, Smith AE, Linn JF, Epstein JI, Schoenberg M, and Sidransky D. Genetic alterations in bladder carcinosarcoma: evidence of a common clonal origin. [Eur Urol, 37: 350-357, 2000.](#)
16. Weeraratna AT, Arnold JT, George DJ, **De Marzo AM**, and Isaacs JT. Rational basis for Trk inhibition therapy for prostate cancer. [Prostate, 45:140-8, 2000.](#)
17. David-Beabes GL, Overman MJ, Petrofski JA, Campbell PA, **De Marzo AM**, and Nelson WG. Doxorubicin-resistant variants of human prostate cancer cell lines DU 145, PC3 and TSU-PR1: characterization of biochemical determinants of antineoplastic sensitivity. [Int J Oncol, 17:1077-1086, 2000.](#)
18. Putzi MP, and **De Marzo AM**. Morphological transitions between proliferative inflammatory atrophy and high-grade prostatic intraepithelial neoplasia. [Urology, 56:828-832, 2000.](#)
19. Nelson CP, Kidd LC, Sauvageot J, Isaacs WB, **De Marzo AM**, Groopman JD, Nelson WG, and Kensler TW. Protection against 2-hydroxyamino-1-methyl-6-phenylimidazo[4,5-b]pyridine cytotoxicity and DNA adduct formation in human prostate by glutathione S-transferase P1. [Cancer Res, 61:103-109, 2001.](#)
20. Parsons JK, Nelson CP, Gage WR, Nelson WG, and **De Marzo AM**. GSTA1 expression in normal, pre-neoplastic, and neoplastic human prostate tissue. [The Prostate, 49:30-37, 2001.](#)
21. Parsons JK, Gage WR, Nelson WG, and **De Marzo AM**. p63 protein expression is rare in prostate adenocarcinoma: implications for cancer diagnosis and carcinogenesis. [Urology, 58:619-624, 2001.](#)
22. DeWeese TL, van der Poel H, Li S, Mikhak B, Drew R, Goemann M, Hamper U, DeJong R, Detorie N, Rodriguez R, Haulk T, **DeMarzo AM**, Piantadosi S, Yu DC, Chen Y, Henderson DR, Carducci MA, Nelson WG, and Simons JW. A phase I trial of CV706, a replication-competent, PSA selective oncolytic adenovirus, for the treatment of locally recurrent prostate cancer following radiation therapy. [Cancer Res, 61:7464-72, 2001.](#)
23. Manley S, Mucci NR, **De Marzo AM**, and Rubin MA. Relational database structure to manage high-density tissue microarray data and images for pathology studies focusing on clinical outcome : the prostate specialized program of research excellence model. [Am J Pathol, 159:837-43, 2001.](#)
24. Zha S, Gage WR, Sauvageot J, Saria EA, Putzi MJ, Ewing CM, Faith DA, Nelson WG, **De Marzo² AM**, and Isaacs WB. Cyclooxygenase-2 is up-regulated in proliferative inflammatory atrophy of the prostate, but not in prostate carcinoma, [Cancer Res, 61: 8617-23, 2001.](#)
25. Lin X, Asgari K, Putzi MJ, Gage WR, Yu X, Cornblatt BS, Kumar A, Piantadosi S, DeWeese TL, **De Marzo AM**, and Nelson WG. Reversal of GSTP1 CpG island hypermethylation and reactivation of pi- class glutathione S-transferase (GSTP1) expression in human prostate cancer cells by treatment with procainamide. [Cancer Res, 61: 8611-6, 2001.](#)
26. Lin X, Tascilar M, Lee WH, Vles WJ, Lee BH, Veeraswamy R, Asgari K, Freije D, van Rees B, Gage WR, Bova GS, Isaacs WB, Brooks JD, DeWeese TL. **De Marzo AM**, and Nelson WG. GSTP1 CpG island hypermethylation is responsible for the absence of GSTP1 expression in human prostate cancer cells. [Am J Pathol, 159:1815-1826, 2001.](#)
27. Carpten J, Nupponen N, Isaacs S, Sood R, Robbins C, Xu J, Faruque M, Moses T, Ewing C, Gillanders E, Hu P, Bujnovszky P, Makalowska I, Baffoe-Bonnie A, Faith D, Smith J, Stephan D, Wiley K, Brownstein M, Gildea D, Kelly B, Jenkins R, Hostetter G, Matikainen M, Schleutker J,

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- Klinger K, Connors T, Xiang Y, Wang Z, **De Marzo A**, Papadopoulos N, Kallioniemi OP, Burk R, Meyers D, Gronberg H, Meltzer P, Silverman R, Bailey-Wilson J, Walsh P, Isaacs W, and Trent J. Germline mutations in the ribonuclease L gene in families showing linkage with HPC1. [Nat Genet, 30:181-184, 2002.](#)
28. Meeker AK, Gage WR, Hicks JL, Simon I, Coffman JR, Platz EA, March GE, and **De Marzo AM**. Telomere length assessment in human archival tissues: combined telomere fluorescent in situ hybridization and immunostaining. [Am J Pathol, 160:1259-1268, 2002.](#)
29. Luo J, Gage WR, Hicks JL, Wanders RJ, Trent JM, Isaacs WB, and **De Marzo AM**. Alpha-methylacyl-CoA racemase: a new molecular marker for prostate cancer. [Cancer Res, 62:2220-2226, 2002.](#)
30. **De Marzo AM**, Fedor H, Gage WR, and Rubin MA. Inadequate formalin fixation reduces reliability of p27^{Kip1} immunohistochemical staining: probing optimal fixation time using high-density tissue microarrays. [Human Path, 33:756-60, 2002.](#)
31. Xu J, Zheng SL, Komiya A, Mychaleckyj J, Isaacs SD, Hu JJ, Sterling D, Lange E.M., Hawkins, G.A., Turner, A., Ewing, C.M., Faith, D.A., Johnson, J.R., Suzuki, H, Bujnovszky P, Wiley KE, **De Marzo AM**, Bova GS, Chang B, Hall MC, McCullough DL, Partin AW, Kassabian VS, Carpten JD, Baily-Wilson JE, Trent JM, Ohar J, Bleecker ER, Walsh PC, Isaacs WB, and Meyers DA. Germline mutations and sequence variants of the macrophage scavenger receptor 1 gene are associated with prostate cancer risk in Caucasian and African American men. [Nat Genet, 32:321-5, 2002.](#)
32. Meeker AK, Hicks JL, Platz EA, March GE, Bennett CJ, Delannoy MJ, and **De Marzo AM**. Telomere shortening is an early somatic DNA alteration in human prostate tumorigenesis. [Cancer Res, 62:6405-9, 2002.](#)
33. Yang G, Ayala G, **De Marzo AM**, Tian W, Frolov A, Wheeler TM, Thompson TC, and Harper JW. Elevated Skp2 protein expression in human prostate cancer: association with loss of the cyclin-dependent kinase inhibitor p27 and PTEN and with reduced recurrence-free survival. [Clin Cancer Res, 8:3419-26, 2002.](#)
34. van Heek NT, Meeker AK, Kern SE, Yeo CJ, Lillemoe KD, Cameron JL, Offerhaus GJ, Hicks JL, Wilentz RE, Goggins MG, **De Marzo AM**, Hruban RH, and Maitra A. Telomere shortening is nearly universal in pancreatic intraepithelial neoplasia. [Am J Pathol, 161:1541-7, 2002.](#)
35. Sachs MD, Rauen KA, Ramamurthy M, Dodson JL, **De Marzo AM**, Putzi MJ, Schoenberg MP, and Rodriguez R. Integrin alpha (v) and coxsackie adenovirus receptor expression in clinical bladder cancer. [Urology, 60:531-6, 2002.](#)
36. Heath EI, DeWeese TL, Partin AW, **De Marzo AM**, Groopman JD, Nelson WG, Piantadosi SA, Lieberman R, and Carducci MA. The design of a randomized, placebo-controlled trial of celecoxib in preprostatectomy men with clinically localized adenocarcinoma of the prostate. [Clin Prostate Cancer, 1:182-7, 2002.](#)
37. Collis SJ, Ketner GW, Hicks JL, Nelson WG, **De Marzo AM**, and Deweese TL. Expression of the DNA-PK binding protein E4-34K fails to confer radiation sensitivity to mammalian cells. [Int J Radiat Biol, 79:53-60, 2003.](#)
38. Van Leenders GJ, Gage WR, Hicks JL, Van Balken B, Aalders TW, Schalken JA, and **De Marzo AM**. Intermediate cells in human prostate epithelium are enriched in proliferative inflammatory atrophy. [Am J Pathol, 162:1529-37, 2003.](#)
39. Magi-Galluzzi C, Luo J, Isaacs WB, Hicks JL, **De Marzo AM**, and Epstein JI. Alpha-Methylacyl-CoA racemase: a variably sensitive immunohistochemical marker for the diagnosis of small prostate cancer foci on needle biopsy. [Am J Surg Pathol, 8:1128-33, 2003.](#)
40. Nakayama M, Bennett CJ, Hicks JL, Epstein JI, Platz EA, Nelson WG, and **De Marzo AM**. Hypermethylation of the human glutathione S-transferase-pi gene (GSTP1) CpG island is present in a subset of proliferative inflammatory atrophy lesions but not in normal or hyperplastic epithelium of the prostate: a detailed study using laser-capture microdissection. [Am J Pathol, 163:923-933, 2003.](#)

41. Maitra A, Adsay NV, Argani P, Iacobuzio-Donahue C, **De Marzo A**, Cameron JL, Yeo CJ, and Hruban RH. Multicomponent analysis of the pancreatic adenocarcinoma progression model using a pancreatic intraepithelial neoplasia tissue microarray. [Mod Pathol, 9:902-12, 2003.](#)
42. Volmar KE, Chan TY, **De Marzo AM**, and Epstein JI. Florid von Brunn nests mimicking urothelial carcinoma: a morphologic and immunohistochemical comparison to the nested variant of urothelial carcinoma. [Am J Surg Pathol, 9:1243-52, 2003.](#)
43. Zha S, Ferdinandusse S, Denis S, Wanders RJ, Ewing CM, Luo J, **De Marzo AM**, and Isaacs WB. Alpha-methylacyl-Coa racemase as an androgen-independent growth modifier in prostate cancer. [Cancer Res, 63:7365-7376, 2003.](#)
44. Lapointe J, Li C, Higgins JP, Van De Rijn M, Bair E, Montgomery K, Ferrari M, Egevad L, Rayford W, Bergerheim U, Ekman P, **DeMarzo AM**, Tibshirani R, Botstein D, Brown PO, Brooks JD, and Pollack JR. Gene expression profiling identifies clinically relevant subtypes of prostate cancer. [Proc Natl Acad Sci USA, 101:811-6, 2004.](#)
45. Bachman KE, Blair BG, Brenner K, Bardelli A, Arena S, Zhou S, Hicks J, **De Marzo AM**, Argani P, and Park BH. p21(WAF1/CIP1) Mediates the Growth Response to TGF-beta in Human Epithelial Cells. [Cancer Biol Ther, 3:221-225, 2004.](#)
46. Platz EA, **De Marzo AM**, and Giovannucci E. Failure to detect prostate cancer in the PSA era: comments on N Engl J Med 2003. 349: 215-224 and N Engl J Med. 349: 335-342. 2003. [Cancer Causes Control, 15 :91-4, 2004.](#)
47. Gonzalgo ML, Nakayama M, Lee SM, **De Marzo AM**, and Nelson WG. Detection of GSTP1 methylation in prostatic secretions using combinatorial MSP analysis. [Urology, 63:414-8, 2004.](#)
48. Meeker AK, Hicks JL, Gabrielson E, Strauss WM, **De Marzo AM**, and Argani P. Telomere shortening occurs in subsets of normal breast epithelium as well as in situ and invasive carcinoma. [Am J Pathol, 164:925-35, 2004.](#)
49. Yegnasubramanian S, Kowalski J, Gonzalgo ML, Zahurak M, Piantadosi S, Walsh PC, Bova GS, **De Marzo AM**, Isaacs WB, and Nelson WG. Hypermethylation of CpG islands in primary and metastatic human prostate cancer. [Cancer Res, 64:1975-86, 2004.](#)
50. David GL, Yegnasubramanian S, Kumar A, Marchi VL, **De Marzo AM**, Lin X, and Nelson WG. MDR1 promoter hypermethylation in MCF-7 human breast cancer cell: changes in chromatin structure induced by treatment with 5-Aza-Cytidine. [Cancer Biol Ther, 3:e1-e9, 2004.](#)
51. Platz EA, **De Marzo AM**, Erlinger TP, Rifai N, Visvanathan K, Hoffman SC, and Helzlsouer KJ. No association between pre-diagnostic plasma C-reactive protein concentration and subsequent prostate cancer. [Prostate, 59:393-400, 2004.](#)
52. Zhong H, Semenza GL, Simons JW, and **De Marzo AM**. Up-regulation of hypoxia-inducible factor 1 alpha is an early event in prostate carcinogenesis. [Cancer Detect Prev, 28:88-93, 2004.](#)
53. Montgomery E, Argani P, Hicks JL, **DeMarzo AM**, and Meeker AK. Telomere lengths of translocation-associated and nontranslocation-associated sarcomas differ dramatically. [Am J Pathol, 164:1523-9, 2004.](#)
54. Meeker AK, Hicks JL, Iacobuzio-Donahue CA, Montgomery EA, Westra WH, Chan TY, Ronnett BM, and **De Marzo AM**. Telomere length abnormalities occur early in the initiation of epithelial carcinogenesis. [Clin Cancer Res, 10: 3317-26, 2004.](#)
55. Rogers CG, Yan G, Zha S, Gonzalgo ML, Isaacs WB, Luo J, **De Marzo AM**, Nelson WG, and Pavlovich CP. Prostate cancer detection on urinalysis for [alpha] methylacyl coenzyme a racemase protein. [J Urol, 172:1501-1503, 2004.](#)
56. Faith DA, Isaacs WB, Morgan JD, Fedor HL, Hicks JL, Mangold LA, Walsh PC, Partin AW, Platz EA, Luo J, and **De Marzo AM**. Trefoil factor 3 overexpression in prostatic carcinoma: Prognostic importance using tissue microarrays. [The Prostate, 61:215-227, 2004.](#)
57. Marks LS, Kojima M, **De Marzo AM**, Heber D, Bostwick DG, Qian J, Dorey FJ, Veltri RW, Mohler JL, and Partin AW. Prostate cancer in native Japanese and Japanese-American men: effects of differences on prostatic tissue. [Urology, 64:765-71, 2004.](#)

58. Agoston AT, Argani P, Yegnasubramanian S, **De Marzo AM**, Ansari-Lari MA, Hicks JL, Davidson NE, Nelson WG. Increased protein stability causes DNA methyltransferase 1 dysregulation in breast cancer. [J Biol Chem, 280:18302-10, 2005.](#)
59. Platz EA, Rohrmann S, Pearson JD, Corrada MM, Watson DJ, **De Marzo AM**, Landis PK, Metter EJ, Carter HB. Nonsteroidal anti-inflammatory drugs and risk of prostate cancer in the Baltimore Longitudinal Study of Aging. [Cancer Epidemiol Biomarkers Prev, 14:390-6, 2005.](#)
60. Faith D, Han S, Lee DK, Friedl A, Hicks JL, **De Marzo AM**, Jarrard DF. p16 Is upregulated in proliferative inflammatory atrophy of the prostate. [Prostate 65:73-82, 2005.](#)
61. van der Heijden MS, Brody JR, Dezentje DA, Gallmeier E, Cunningham SC, Swartz MJ, **De Marzo AM**, Offerhaus GJ, Isacoff WH, Hruban RH, Kern SE. In vivo therapeutic responses contingent on Fanconi anemia/BRCA2 status of the tumor. [Clin Cancer Res., 11:7508-15, 2005.](#)
62. Dalrymple S, Antony L, Xu Y, Uzgare AR, Arnold JT, Savaugot J, Sokoll LJ, **De Marzo AM**, Isaacs JT. Role of notch-1 and E-cadherin in the differential response to calcium in culturing normal versus malignant prostate cells. [Cancer Res., 65:9269-79, 2005.](#)
63. Sutcliffe S, Giovannucci E, **De Marzo AM**, Willett WC, Platz EA. Sexually transmitted infections, prostatitis, ejaculation frequency, and the odds of lower urinary tract symptoms. [Am J Epidemiol, 62:898-906, 2005.](#)
64. Rohrmann S, **De Marzo AM**, Smit E, Giovannucci E, Platz EA. Serum C-reactive protein concentration and lower urinary tract symptoms in older men in the Third National Health and Nutrition Examination Survey (NHANES III). [Prostate, 62:27-33, 2005.](#)
65. Zha S, Ferdinandusse S, Hicks JL, Denis S, Dunn TA, Wanders RJ, Luo J, **De Marzo AM**, Isaacs WB. Peroxisomal branched chain fatty acid beta-oxidation pathway is upregulated in prostate cancer. [Prostate, 63:316-23, 2005.](#)
66. Yegnasubramanian S, Lin X, Haffner MC, **DeMarzo AM**, Nelson WG. Combination of methylated-DNA precipitation and methylation-sensitive restriction enzymes (COMPARE-MS) for the rapid, sensitive and quantitative detection of DNA methylation. [Nucleic Acids Res, 34:e19, 2006.](#)
67. Sutcliffe S, Zenilman JM, Ghanem KG, Jadack RA, Sokoll LJ, Elliott DJ, Nelson WG, **De Marzo AM**, Cole SR, Isaacs WB, Platz EA. Sexually transmitted infections and prostatic inflammation/cell damage as measured by serum prostate specific antigen concentration. [J Urol, 175:1937-42, 2006.](#)
68. Sutcliffe S, Giovannucci E, Alderete JF, Chang TH, Gaydos CA, Zenilman JM, **De Marzo AM**, Willett WC, Platz EA. Plasma antibodies against Trichomonas vaginalis and subsequent risk of prostate cancer. [Cancer Epidemiol Biomarkers Prev, 15:939-45, 2006.](#)
69. Karakas B, Weeraratna A, Abukhdeir A, Blair BG, Konishi H, Arena S, Becker K, Wood W, Argani P, **De Marzo AM**, Bachman KE, Park BH. Interleukin-1 alpha mediates the growth proliferative effects of transforming growth factor-beta in p21 null MCF-10A human mammary epithelial cells. [Oncogene, 25:5561-9, 2006.](#)
70. Hansel DE, Meeker AK, Hicks J, **De Marzo AM**, Lillemoe KD, Schulick R, Hruban RH, Maitra A, Argani P. Telomere length variation in biliary tract metaplasia, dysplasia, and carcinoma. [Mod Pathol, 19:772-9, 2006.](#)
71. Palapattu GS, Meeker A, Harris T, Collector MI, Sharkis SJ, **De Marzo AM**, Warlick C, Drake CG, Nelson WG. Epithelial architectural destruction is necessary for bone marrow derived cell contribution to regenerating prostate epithelium. [J Urol, 176:813-8, 2006.](#)
72. **De Marzo AM**, Platz EA, Epstein JI, Ali T, Billis A, Chan TY, Cheng L, Datta M, Egevad L, Ertoy-Baydar D, Farre X, Fine S, Iczkowski KA, Ittmann M, Knudsen BS, Loda M, Lopez-Beltran A, Magi-Galluzzi C, Mikuz G, Montironi R, Pikarsky E, Pizov G, Rubin MA, Samaratunga H, Sebo T, Sesterhenn IA, Shah RB, Signoretti S, Simko J, Thomas G, Troncoso P, Tsuzuki T, van Leenders GJLH, Yang X, Zhou M, Figg WD, Hoque A, Lucia MS. A Working Group Classification of focal prostate atrophy lesions. [Am J Surg Pathol, 30:10 281-91, 2006.](#)

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74. Fine SW, Argani P, **Demarzo AM**, Delahunt B, Sebo TJ, Reuter VE, Epstein JI. Expanding the Histologic Spectrum of Mucinous Tubular and Spindle Cell Carcinoma of the Kidney. [Am J Surg Pathol, 30:1554-1560, 2006.](#)
75. Parwani AV, Marlow C, **De Marco AM**, Mikolajczyk SD, Rittenhouse HG, Veltri RW, Chan TY. Immunohistochemical staining of precursor forms of prostate-specific antigen (proPSA) in metastatic prostate cancer. [Am J Surg Pathol, 30:1231-6, 2006.](#)
76. Sutcliffe S, Giovannucci E, **De Marzo AM**, Leitzmann MF, Willett WC, Platz EA. Gonorrhea, syphilis, clinical prostatitis, and the risk of prostate cancer. [Cancer Epidemiol Biomarkers Prev, 15:2160-6, 2006](#)
77. Bethel CR, Faith D, Li X, Guan B, Hicks JL, Lan F, Jenkins RB, Bieberich CJ, **De Marzo AM**. Decreased NKX3.1 protein expression in focal prostatic atrophy, prostatic intraepithelial neoplasia, and adenocarcinoma: association with Gleason score and chromosome 8p deletion. [Cancer Res, 66:10683-90, 2006.](#)
78. Dunn TA, Chen S, Faith DA, Hicks JL, Platz EA, Chen Y, Ewing CM, Sauvageot J, Isaacs WB, **De Marzo AM**, Luo J. A Novel Role of Myosin VI in Human Prostate Cancer. [Am J Pathol, 169:1843-54, 2006.](#)
79. Nakai Y, Nelson WG, and **De Marzo AM**. The dietary charred meat carcinogen 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine acts as both a tumor initiator and promoter in the rat ventral prostate. [Cancer Res, 67:1378-84, 2007.](#)
80. Herawi M, **De Marzo AM**, Kristiansen G, Epstein JI. Expression of CDX2 in benign tissue and adenocarcinoma of the prostate. [Hum Pathol, 2007 Jan;38\(1\):72-8.](#)
81. Perner S, Mosquera JM, Demichelis F, Hofer MD, Paris PL, Simko J, Collins C, Bismar TA, Chinnaiyan AM, **De Marzo AM**, Rubin MA. TMPRSS2-ERG fusion prostate cancer: an early molecular event associated with invasion. [Am J Surg Pathol, 31:882-888, 2007.](#)
82. Agoston AT, Argani P, **De Marzo AM**, Hicks JL, Nelson WG. Retinoblastoma pathway dysregulation causes DNA methyltransferase 1 overexpression in cancer via MAD2-mediated inhibition of the anaphase-promoting complex. [Am J Pathol, 170:1585-93, 2007.](#)
83. Hansel DE, **De Marzo AM**, Platz EA, Jadallah S, Hicks J, Epstein JI, Partin AW, Netto GJ. Early prostate cancer antigen expression in predicting presence of prostate cancer in men with histologically negative biopsies. [J Urol, 177:1736-40, 2007.](#)
84. Sutcliffe S, Giovannucci E, Gaydos CA, Viscidi RP, Jenkins FJ, Zenilman JM, Jacobson LP, **De Marzo AM**, Willett WC, Platz EA. Plasma antibodies against Chlamydia trachomatis, human papillomavirus, and human herpesvirus type 8 in relation to prostate cancer: a prospective study. [Cancer Epidemiol Biomarkers Prev, 16:1573-80, 2007.](#)
85. Chuang AY, **Demarzo AM**, Veltri RW, Sharma RB, Bieberich CJ, Epstein JI. Immunohistochemical differentiation of high-grade prostate carcinoma from urothelial carcinoma. [Am J Surg Pathol, 31:1246-1255, 2007.](#)
86. Argani P, Olgac S, Tickoo SK, Goldfischer M, Moch H, Chan DY, Eble JN, Bonsib SM, Jimeno M, Lloreta J, Billis A, Hicks J, **De Marzo AM**, Reuter VE, Ladanyi M. Xp11 Translocation Renal Cell Carcinoma in Adults: Expanded Clinical, Pathologic, and Genetic Spectrum. [Am J Surg Pathol, 31:1149-1160, 2007.](#)
87. Grosso JF, Kelleher CC, Harris TJ, Maris CH, Hipkiss EL, De Marzo A, Anders R, Netto G, Getnet D, Bruno TC, Goldberg MV, Pardoll DM, Drake CG. LAG-3 regulates CD8 T cell accumulation and effector function in murine self- and tumor-tolerance systems. [J Clin Invest, 117:3383-92, 2007.](#)
88. Sutcliffe S, Rohrmann S, Giovannucci E, Nelson KE, **De Marzo AM**, Isaacs WB, Nelson WG, Platz EA. Viral infections and lower urinary tract symptoms in the third national health and nutrition examination survey. [J Urol, 178:2181-5, 2007.](#)

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94. Winarti NW, Argani P, **De Marzo AM**, Hicks J, Mulyadi K. Pediatric renal cell carcinoma associated with Xp11.2 translocation/TFE3 gene fusion. [Int J Surg Pathol, 16:66-72, 2008.](#)
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101. Sfanos KS, Bruno TC, Maris CH, Xu L, Thoburn CJ, **Demarzo AM**, Meeker AK, Isaacs WB, Drake CG. Phenotypic Analysis of Prostate-Infiltrating Lymphocytes Reveals TH17 and Treg Skewing. [Clin Cancer Res. 14:3254-61, 2008.](#)
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122. Sfanos KS, Bruno TC, Meeker AK, **De Marzo AM**, Isaacs WB, Drake CG. Human prostate-infiltrating CD8+ T lymphocytes are oligoclonal and PD-1+. *Prostate.* [69:1694-703, 2009.](#)

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TMAJ: A Johns Hopkins Set of Open Source Software Tools to Manage a Multi-Organ, Scalable, Secure, Multi-User Tissue MicroArray Database. <http://tmaj.pathology.jhmi.edu/>. Copyright, 2002-2007.

Telomere Counter: An Open Source Plugin Tool for ImageJ Software. Improved extraction of quantitative data from fluorescence in situ hybridization (FISH) images. <http://bui2.win.ad.jhu.edu/telometer/>

Patents (Pending):

Antibody to Human DNA Methyltransferase 1 (JHU Ref 4328)

Epigenetic Test for Human Prostate Cancer (JHU Ref 4302) – with V. Yegnasubramanian, WG Nelson, WB Isaacs, M Gonzlago and licensed by OncoMethylome Sciences

Research Program Building/ Leadership

1. Research Interests

Our group has postulated that a common lesion, that is often associated with inflammation, that we termed “proliferative inflammatory atrophy” (PIA), may represent a risk factor/precursor lesion to prostate cancer. The model is that inflammation and dietary practices result in injury to the prostate cells.

This results in cell death, regeneration, DNA damage, mutation and cancer cell formation. The DNA damage results directly from both the phagocytic inflammatory cells that release reactive oxygen and nitrogen species, as well as, dietary agents that can directly adduct to DNA to cause mutations.

These studies have implications for prevention and chemoprevention of prostate cancer--if inflammation is stimulating prostate cancer development, then agents that inhibit the inflammatory response may decrease prostate cancer risk. Also, the elucidation of which agents incite prostate inflammation may lead to eradication of these agents and prevention of cancer.

Our group has recently discovered that the C-MYC oncoprotein is overexpressed in human prostate cancer and its precursor lesion. We are now using genetically engineered mouse models, and cell culture systems, to study the role of MYC in prostate cancer cell neoplastic transformation and cell growth regulation. Since MYC is a key regulator of stem cells, these studies have direct implications for stem cell models of prostate cancer formation.

Finally, we also use rat and mouse models of prostate cancer to study the role of diet in prevention of prostate cancer.

Our methods include immunohistochemistry, immunofluorescence, in situ hybridization, quantitative RT-PCR, methylation specific PCR, bisulfite sequencing, and whole genome transcriptome expression analyzes. Many of these molecular methods are performed after Laser Capture Microdissection of specific cell populations.

Much of this work has been done also in collaboration with Dr. William G. Nelson, Srinivasan Yegnasubramanian, Alan K. Meeker, William B. Isaacs. We also have projects working with Charles Drake, Jun Luo, Chi van Dang, and Charles J. Bieberich (University of Maryland Baltimore County). Many of our studies are also performed in conjunction with Elizabeth A. Platz, from the Bloomberg School of Public Health.

2. Translational Research Programs

- *Biomarker Development*

Our group has been leading efforts to apply novel biomarkers to human prostate tissues, particularly needle biopsies. We study protein and other biomarkers that might aid the pathologist in making a diagnosis on challenging needle biopsy cases. Dr. De Marzo also leads the pathology component of the effort at JHU to interact with the Inter-Prostate-SPORE Biomarker Study and the National Biospecimen Network.

- *Tissue Microarrays*

Our group leads the effort at tissue banking in the prostate cancer research program at Johns Hopkins and we are also heavily involved in tissue microarray technology and tissue microarray software and database design (see <http://tmaj.pathology.jhmi.edu>). We have developed novel methods of analyzing tissue microarrays and these are implemented through the Johns Hopkins Tissue Microarray Core facility (<http://tmalab.jhmi.edu>).

EDUCATIONAL ACTIVITIES

Peer Reviewed Publications

Invited Reviews

1. Edwards DP, **De Marzo AM**, Oñate SA, Beck CA, Estes PA, and Nordeen SK. Mechanisms controlling steroid receptor binding to specific DNA sequences. [Steroids 56:271-278, 1991.](#)

2. Edwards DP, Altman M, **De Marzo AM**, and Beck CA. Progesterone receptor and the mechanism of action of progesterone antagonists. [J Steroid Biochem and Molecular Bio, 53: 449, 1995.](#)
3. **De Marzo AM**, Nelson WG, Meeker AK, and Coffey DS. Stem cell features of benign and malignant prostate epithelial cells. [J Urol, 160\(6 Pt 2\):2381-2392, 1998.](#)
4. **De Marzo AM**, Coffey DS, and Nelson WG. New concepts in tissue specificity of prostate cancer and benign prostatic hyperplasia. [Urology, 53 \(Suppl 3A\):29-39, 1999.](#)
5. Nelson WG, Simons JW, Mikhak B, Chang JF, **De Marzo AM**, Carducci MA, Kim M, Weber CE, Baccala AA, Goemann MA, Clift SM, Ando DG, Levitsky HI, Cohen LK, Sanda MG, Mulligan RC, Partin AW, Carter H, Piantadosi S, and Marshall FF. Cancer cells engineered to secrete granulocyte-macrophage colony stimulating factor using ex vivo gene transfer as vaccines for the treatment of genitourinary malignancies. [Cancer Chemother Pharmacol, 46 Suppl:S67-72, 2000.](#)
6. Nelson WG, **De Marzo AM**, and DeWeese TL. The molecular pathogenesis of prostate cancer: Implications for prostate cancer prevention. [Urology, 57\(4 Suppl 1\):39-45, 2001.](#)
7. Nelson WG, **De Marzo AM**, and DeWeese TL. The molecular pathogenesis of prostate cancer: focus on the earliest steps. [Eur Urol, 39\(suppl 4\):8-11, 2001.](#)
8. **De Marzo AM**, Putzi MP, and Nelson WG. New concepts in the pathology of prostate epithelial carcinogenesis. [Urology, 57 \(Suppl 4A\):103-114, 2001.](#)
9. Nelson WG, **De Marzo AM**, Deweese TL, Lin X, Brooks JD, Putzi MJ, Nelson CP, Groopman JD, and Kensler TW. Preneoplastic prostate lesions: an opportunity for prostate cancer prevention. [Ann N Y Acad Sci, 952: 135-144, 2001.](#)
10. Putzi MP, and **De Marzo AM**. Prostate pathology: histologic and molecular perspectives. [Hematology/Oncology Clinics of North America, 3:407-421, 2001.](#)
11. Nelson WG, DeWeese TL, and **De Marzo AM**. The diet, prostate inflammation, and the development of prostate cancer. [Cancer Metastasis Rev, 21:3-16, 2002.](#)
12. Isaacs WB, **De Marzo AM**, and Nelson WG. Focus on prostate cancer. [Cancer Cell, 2:113, 2002.](#)
13. **De Marzo AM**, Nelson WG, Isaacs WB, and Epstein JI. Pathological and molecular aspects of prostate cancer. [Lancet, 361:955-64, 2003.](#)
14. Nelson WG, **De Marzo AM**, and Isaacs WB. Mechanisms of disease. The molecular pathogenesis of prostate cancer: a new role for inflammation? [New Eng. J. Med, 349:366-81, 2003.](#)
15. Litvinov IV, **De Marzo AM**, and Isaacs JT. Is the Achilles' heel for prostate cancer therapy a gain of function in androgen receptor signaling? [J Clin Endocrinol Metab, 88:2972-82, 2003.](#)
16. **De Marzo AM**, Meeker AK, Zha S, Luo J, Nakayama M, Platz EA, Isaacs WB, and Nelson WG. Human prostate cancer precursors and pathobiology. [Urology, 62 \(5 Suppl 1\):55-62, 2003.](#)
17. Rubin MA and **De Marzo AM**. Molecular genetics of human prostate cancer. [Mod Pathol, 17:380-388, 2004.](#)
18. Bastian PJ, Nakayama M, **De Marzo AM**, and Nelson WG. GSTP1 CpG island hypermethylation as a molecular marker in the carcinogenesis of prostate cancer. [Urologe A, 43:573-9, 2004](#) (in german).
19. Bastian PJ, Yegnasubramanian S, Palapattu GS, Rogers CG, Lin X, **DeMarzo AM**, Nelson WG. Molecular biomarker in prostate cancer: the role of CpG island hypermethylation. [Eur Urol, 46:698-708, 2004.](#)
20. **De Marzo AM**, DeWeese TL, Platz EA, Meeker AK, Nakayama M, Epstein JI, Isaacs WB, and Nelson WG. Pathological and molecular mechanisms of prostate carcinogenesis: implications for diagnosis, detection, prevention, and treatment. [J Cell Biochem, 91:459-77, 2004.](#)
21. Nakayama M, Gonzalgo ML, Yegnasubramanian S, Lin X, **De Marzo AM**, and Nelson WG. GSTP1 CpG island hypermethylation as a molecular biomarker for prostate cancer. [J Cell Biochem, 91:540-52, 2004.](#)

22. Platz EA, **De Marzo AM**, and Giovannucci E. Prostate cancer association studies: pitfalls and solutions to cancer misclassification in the PSA era. [J Cell Biochem, 91:553-71, 2004.](#)
23. Zha S, Yegnasubramanian V, Nelson WG, Isaacs WB, and **De Marzo AM**. Cyclooxygenases in cancer: progress and perspective. [Cancer Lett, 215:1-20, 2004.](#)
24. Meeker AK and **De Marzo AM**. Recent advances in telomere biology: implications for human cancer. [Curr Opin Oncol, 16:32-8, 2004.](#)
25. Platz E and **De Marzo AM**. Epidemiology of inflammation and prostate cancer. [J Urol, 171:S36-S40, 2004.](#)
26. Nelson WG, **De Marzo AM**, DeWeese TL, Isaacs WB. The role of inflammation in the pathogenesis of prostate cancer. [J Urol, 172\(5 Pt 2\):S6-11; discussion S11-2, 2004.](#)
27. Palapattu GS, Sutcliffe S, Bastian PJ, Platz EA, **De Marzo AM**, Isaacs WB, and Nelson WG. Prostate carcinogenesis and inflammation: emerging insights. [Carcinogenesis, 26:1170-81, 2005.](#)
28. **De Marzo AM**, Platz EA, Sutcliffe S, Xu J, Gronberg H, Drake CG, Nakai Y, Isaacs WB, and Nelson WG. Inflammation in prostate carcinogenesis. [Nat Rev Can, 7:256-269, 2007.](#)
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31. Gurel B, Iwata T, Koh CM, Yegnasubramanian S, Nelson WG, **De Marzo AM**. Molecular alterations in prostate cancer as diagnostic, prognostic, and therapeutic targets. [Adv Anat Pathol, 15:319-31, 2008.](#)
32. Nelson WG, **De Marzo AM**, Yegnasubramanian S. Minireview: Epigenetic Alterations in Human Prostate Cancers. *Endocrinology*. 2009 Jun 11. [Epub ahead of print]
33. Bardia A, Platz EA, Yegnasubramanian S, **De Marzo AM**, Nelson WG. Anti-inflammatory drugs, antioxidants, and prostate cancer prevention. *Curr Opin Pharmacol*. 2009 Jun 30. [Epub ahead of print]

Case Reports

1. Halachmi S, **De Marzo AM**, Epstein JI, and Schoenberg M. Extensive squamous cell carcinoma in situ masking deeply invasive disease. [J Urol, 159:203, 1998.](#)
2. Gonzalgo ML, de Lacerda DA, **De Marzo AM**, and Chan DY. Persistent purulent drainage from the glans penis: atypical presentation of pyoderma gangrenosum. [J. Urol, 169:1793-4, 2003.](#)
3. Suzigan S, Drut R, Faria P, Argani P, **De Marzo AM**, Barbosa RN, Mello Denadai ER, Martins-Filho J, Martucci RC, Bauab T Jr. Xp11 translocation carcinoma of the kidney presenting with multilocular cystic renal cell carcinoma-like features. [Int J Surg Pathol, 15:199-203, 2007.](#)
4. Rais-Bahrami S, Drabick JJ, **De Marzo AM**, Hicks J, Ho C, Caroe AE, Argani P. Xp11 translocation renal cell carcinoma: delayed but massive and lethal metastases of a chemotherapy-associated secondary malignancy. [Urology, 70:178.e3-6, 2007.](#)

Book Chapters

1. Edwards DP, Estes PA, Oñate SA, Beck CA, **De Marzo AM**, and Nordeen SK. Mechanisms controlling steroid receptor binding to specific DNA sequences. *Breast Epithelial Antigens*, Plenum Press (Ed. R. L. Ceriami) 1991.
2. Nelson WG, DeWeese TL, **De Marzo AM**, and Brooks JD. Prostate cancer prevention. *Prostate Cancer*, Lippincott Williams & Wilkins (Ed. P.W. Kantoff, P. Carroll, and A.D'Amico) 2002, pp103-114.
3. Fedor HL, **De Marzo AM**. Practical methods for tissue microarray construction. [Methods Mol Med, 103:89-102, 2005.](#)

4. **De Marzo, AM (Guest Editor).** Inflammatory links to bladder and prostate cancer. [Urol. Oncol. 25: 240-1, 2007.](#)
5. Meeker, A.K., Gage, W.R., **De Marzo, A.M.**, and Maitra, A. Direct, in situ Assessment of Telomere Length Variation in Human Cancers and Preneoplastic Lesions. In Handbook of Immunochemistry and In Situ Hybridization of Human Carcinomas: Hayat, M.A., editor. In press.
6. **De Marzo, AM.** The Pathology of Human Prostatic Atrophy and Inflammation. In “Prostate Cancer: Novel Biology, Genetics and Therapy”, Second Edition, Editors, JW Simmons, L Chung, WB Isaacs, The Humana Press, Totowa NJ. In press.
7. Valdman, A, Jenkins RB, Lan F, **De Marzo AM.** Histopathology and Molecular Biology of Prostate Atrophy: A Lesion Associated with Inflammation, Prostate Intraepithelial Neoplasia, and Prostate Cancer. [Prostate Cancer, The Humana Press \(Ed. R.G. Pestell, M.T. Nevalainen. 2008, pp1-16.](#)

Other

1. **De Marzo AM.** In memoriam: Gary J. Miller, MD, PhD. [Prostate 48:128-130, 2001.](#)
2. Kelloff GJ, Sullivan DC, Baker H, Clarke LP, Nordstrom R, Tatum JL, Dorfman GS, Jacobs P, Berg CD, Pomper MG, Birrer MJ, Tempero M, Higley HR, Petty BG, Sigman CC, Maley C, Sharma P, Wax A, Ginsberg GG, Dannenberg AJ, Hawk ET, Messing EM, Grossman HB, Harisinghani M, Bigio IJ, Griebel D, Henson DE, Fabian CJ, Ferrara K, Fantini S, Schnall MD, Zujewski JA, Hayes W, Klein EA, **DeMarzo A**, Ocak I, Ketterling JA, Tempany C, Shtern F, Parnes HL, Gomez J, Srivastava S, Szabo E, Lam S, Seibel EJ, Massion P, McLennan G, Cleary K, Suh R, Burt RW, Pfeiffer RM, Hoffman JM, Roy HK, Wang T, Limburg PJ, El-Deiry WS, Papadimitrakopoulou V, Hittelman WN, MacAulay C, Veltri RW, Solomon D, Jeronimo J, Richards-Kortum R, Johnson KA, Viner JL, Stratton SP, Rajadhyaksha M, Dhawan A; Workshop Program Committee. Workshop on imaging science development for cancer prevention and preemption. [Cancer Biomark, 3:1-33. 2007.](#)
3. Failure to detect prostate cancer in the PSA era: comments on N Engl J Med 2003; 349: 215-224 and N Engl J Med 2003; 349: 335-342. Platz EA, **De Marzo AM**, Giovannucci E. Cancer Causes Control. 2004 Feb;15(1):91-4.

Teaching

Classroom Instruction

Medical Students:

1. Primary Instructor, first 4 small group sessions on inflammation and cell injury, the Second Year Pathology Course for medical students, 1997-2007.
2. Primary Instructor, 2 small group sessions on leukemia/lymphoma, the Second Year Pathology Course for medical students, 2001.

Graduate Students:

1. Lecture to Pathobiology Graduate Students on Molecular Biology of Prostate Cancer, 4/11/2000.
2. Lecture to Graduate Students in Comparative Medicine on Molecular Pathology of Prostate Cancer in the Models of Disease Course. Once per year since 2001.
3. Director of Pathobiology Journal Club, 9/1/2005-present.
4. Lecture to Pathobiology Graduate Students in Pathobiology and Disease Mechanisms Course. “Cellular Injury and Death”, 9/13/2006; 9/24/2007, 9/19/2008.
5. Classroom Instructor for “Classic Papers” Course, 4/4/2007; 4/2/2008; 4/1/2009.
6. Lecture to Pathobiology Graduate Students in Pathobiology and Disease Mechanisms Course. “Pathobiology of Prostate Cancer”, 4/4/2007; 4/2/2008; 4/3/2009.

Mixed Graduate Students, Research and Clinical Fellows:

1. Principles of Immunostaining, Urology Summer Lecture Series, 8/27/07.
2. Immunostaining and Tissue Microarray Overview and Practical Uses, Urology Summer Lecture Series, July 29, 2008.

Clinical Instruction

Surgical Pathology

Teaching of Pathology Residents and Medical Students during weekly sign-out of surgical pathology material: Topics include prostate pathology, physiology, and carcinogenesis, 7/1/98- present.

Autopsy Pathology

Teaching of Pathology Residents and Medical Students during autopsy gross conference and sign-out, 1/2000-1/2004.

CME Instruction

Short Course Instructor: “Gene Arrays and Tissue Arrays for Pathologists. 91st-94th Annual Meeting of the United States and Canadian Academy of Pathology”. Sheraton Chicago Hotel, Chicago, Illinois, 2002-2004

Professional Society Course Teaching

Faculty Member, American Association of Cancer Research/American Society of Clinical Oncology - NIH Sponsored Workshop: Methods in Clinical Cancer Research, Vail, Colorado, Aug. 1-7, 2009.

Mentoring:

Advisees

- 7/99 - 11/02 Matthew Putzi, MD. Private practice Urological Pathology.
Dr. Putzi was a fellow in molecular urological pathology.
- 2/00-8/03 Masashi Nakayama, MD. Assistant Professor of Urology, Osaka University.
Dr. Nakayama completed research in our lab as part of his PhD program and is currently an Assistant Professor of Urology at Osaka University.
- 7/00- 3/06 Carlise Douglas Bethel, PhD. Carlise is working on a post-doctoral fellowship in our lab. Carlise earned her PhD at the University of Maryland and worked on part of her PhD thesis project in our lab.
- 7/00 – 7/01 J. Kellogg Parsons, MD. Assistant Professor of Urology, UC San Diego.
Dr. Parsons spent 1 year in our lab performing his basic science year of research.
- 7/00- 7/02 Elizabeth A. Saria, M.D. Instructor of Math and Science, Oakwood Friends School, Poughkeepsie, NY.
Dr. Saria finished 2 years on the AEGON fellowship.

- 10/01- 5/02 Christina Samathanam, MD, PhD. Assistant Professor of Pathology, Texas Tech University Health Sci Ctr School of Medicine. Dr. Samathanam spent approximately 8 months in our lab working on in situ hybridization protocols.
- 10/02- 3/03 Kim Walter, BS, MS. Ph.D. Candidate in the [Pathobiology Graduate Program](#). Kim rotated in our laboratory.
- 1/02-12/04 Alan K. Meeker, PhD. Assistant Professor of Pathology, Johns Hopkins University, School of Medicine. Dr. Meeker completed a post-doctoral fellowship in our laboratory.
- 7/02-6/03 Cristina Magi-Galluzzi MD PhD. Director of Genitourinary Pathology Department of Anatomic Pathology & Assistant Professor, Department of Pathology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University. Dr. Magi-Galluzzi spent one year in our lab as a post-doctoral fellow.
- 8/03- 12/06 Yatsutomo Nakai, MD PhD. Urologist-in-Training, Osaka University. Dr. Nakai completed research in our lab as part of his PhD.
- 12/05-4/08 Hitoshi Inoue, MD, PhD. Resident in Urology, Osaka University Medical Center, Japan. Dr. Inoue completed a post-doctoral fellowship in our laboratory.
- 12/05 – 3/09 Tsuyoshi Iwata, MD, PhD. Urologist-in-Training, Kyoto Prefectural University, Japan. Dr. Iwata completed a post-doctoral fellowship in our lab.
- 4/06-1/07 Alexander Valdman, MD PhD. Alex is currently a resident in Pathology at the Karolinska Institute in Stockholm, Sweden. Alex worked as a post doctoral fellow in our laboratory.
- 7/06-6/07 Christopher Warlick, MD PhD. Assistant Professor of Urology, University of Minnesota Medical School. Dr. Warlick spent 1 year in our lab during residency in Urology performing his basic science research year.
- 7/06-6/07 Zsolt Jobbagy, MD. Staff Pathologist, Department of Laboratory Medicine and Pathology Newark Beth Israel Medical Center, Newark New Jersey. Dr. Jobbagy spent one year in our lab as a post-doctoral fellow.
- 2/07 - present Bora Gurel, MD. Bora is pathologist from Turkey who is working as a post-doc in our laboratory.
- 3/07- present Cheryl Koh, MS. Cheryl is a Pathobiology Graduate Student who is completing her thesis work in our laboratory.
- 7/07 – present Kirstie Adams, PhD. Kirstie is working as a post-doctoral fellow in our laboratory.
- 3/08 – present Denise Schultz, DVM. Denise is a veterinarian currently performing research in our laboratory as a post-doctoral fellow and she is also receiving veterinary pathology training in the Department of Comparative Medicine
- 5/08 – present Carlise Bethel, PhD. Carlise is working as post-doctoral fellow in our laboratory.
- 5/08 – present Karen Sfanos, PhD. Karen is working post-doctoral fellow in our laboratory.

- 6/08 – present Motohide Uemura MD PhD. Dr. Uemura is a Urologist from Osaka University who is performing a post-doctoral fellowship in our laboratory.
- 8/09 – present Laxmi Pellakuru, BS. Laxmi is a Pathobiology Graduate Student who is completing her thesis work in our laboratory.

Thesis Committees

- 1/01-8/02 Jila Bakker. GSTP1 in Liver Cancer - Committee Member
- 2/01 -10/02 Jonathan Brody. PP32 in Cancer - Committee Member
- 5/01- Carlise Douglas. NKX3.1 in Prostate - Committee Member and Thesis Reader
- 2/02 Jessa Jones. Pancreas Cancer: Genetics and Gene Expression - Committee Member
- 11/02-3/03 Dennis Chesire. Beta Catenin Signaling in Prostate Cancer - Committee Member
- 11/02- May Khalili. Conditional Gene Expression in the Prostate - Committee Member
- 2/03-3/05 Siobhan Sutcliffe, PhD. Sexually Transmitted Disease And Prostate Cancer – Committee Member
- 3/04 Anthony Agoston MD PhD. Abnormal Regulation of DNMT1 Protein in Cancer - Committee Member and Thesis Reader
- 1/05 – 5/08 Matthew Vaughn, PhD. Glutathione S-Transferase π Regulation and Expression in Liver – Committee Member
- 7/05 – 5/06 Vassan Yegnasubramanian MD PhD. Aberrant methylation in Prostate Cancer – Committee Member
- 9/05-2/06 Jung Whan Kim DVM. Oncogenic & Hypoxic Alterations of Cellular Metabolism – Committee Member
- 3/06- 4/08 Karen Sandell Sfanos M.S. Characterization of Inflammatory Stimuli and Lymphocyte Populations in the Prostates of Patients Undergoing Radical Retropubic Prostatectomy – Committee Member
- 5/06- Jinchun Yan, B.S. Benign prostate hyperplasia in the rat—Committee Member
- 5/08- 6/09 Barry Chestnut BS– Committee Member

CLINICAL ACTIVITIES

Certification:

National Board of Medical Examiners, Part I: 6/89, passed.

National Board of Medical Examiners, Part II: 3/94, passed.
United States Medical Licensing Exam, Part III: 6/95, passed.
[Maryland Board of Physician Quality Assurance, Active License \(Expires 9/30/2006\)](#).
Diplomat, American Board of Pathology, Anatomic Pathology: 5/98.

Service Responsibilities:

Specialty: Genitourinary Surgical Pathology

Sign out with residents of radical prostatectomy specimens and prostate needle biopsies – 10 % time.

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments:

1. Associate Director of Pathology Cancer Research in Oncology, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins
2. Member, Research Advisory Committee, Department of Pathology
3. Director, Tissue Microarray Core Facility, Department of Pathology and Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins
4. Director, Prostate Specimen Repository, Brady Urological Research Institute
5. Member, Executive Committee, Pathology Training Program, Department of Pathology
6. Research Council Member, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins
7. Agenda/Awards committee Member for Research Council
8. Ad hoc Search Committee Member for Director of Research IT, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins
9. Ad hoc Committee Member on Tissue Cores Strategic Planning Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins
10. Member, Sidney Kimmel Comprehensive Cancer Center Leadership Council
11. Executive Committee Member, Pathobiology Graduate Program at Johns Hopkins
12. Residency Selection Committee, Department of Pathology
13. Johns Hopkins University School of Medicine Task Force on Biospecimen Processing and Tracking
14. CTSA Bioinformatics SubCommittee Member.

Study Section/ Review Groups:

1. Ad Hoc Reviewer: U01 Application – NIH/NCI – 10/2003.
2. Ad Hoc Reviewer: Special Emphasis Panel R21 Application – NIH/NCI – 3/2005.
3. Study Section Initial Review Group Member: Bioengineering Sciences and Technology IRG, Center for Scientific NIH. 10/2005- Present.
4. Integration Panel Committee Member – Department of Defense, Congressionally directed Medical Research Prostate Cancer Research Program (10/2006 - present)
5. Member of Special Emphasis Panel/Scientific Review Group, the Specialized Program of Research Excellence (SPORE), National Cancer Institute, 2/2007 and 6/2007.
6. Ad Hoc Reviewer: Chemo/Dietary Prevention Study Section [CDP], R01 and R21 Grants, 2/2008.
7. 2008 Prostate Cancer Foundation Challenge Awards Standing Peer Review Committee, 4/2008.
8. Study Section Member ARRA RC1 Challenge Grant applications. Mail reviewer for ZRG1 OTC-K (58) in the Oncology-2 Translational Clinical IRG (OTC). July 20-21, 2009.
9. Member of Special Emphasis Panel/Scientific Review Group, the Specialized Program of Research Excellence (SPORE), National Cancer Institute, SPORE in Brain, Prostate, Kidney, Breast Cancers and Melanoma, February 11-12, 2009.

Editorial Activities:

Editorial Board Member: [The Prostate](#), [Cancer Prevention Research](#)

AD Hoc Reviewer: New England Journal of Medicine
Urology, American Journal of Pathology, Cancer Research, Clinical Cancer Research, Journal of Clinical Oncology, Journal of Molecular Diagnostics, European Urology, Nature Reviews Cancer

Professional Societies:

[American Association for the Advancement of Science \(AAAS\)](#) - member since 1987.
American Medical Association (AMA) - member 1987-1994.
American Society of Clinical Pathologists - member since 1995.
College of American Pathologists - member since 1995.
Alpha Omega Alpha - elected 1993.
American Urological Association – associate member since 1998.
American Association for Cancer Research – member since 2001.

Conference Organization:

1. Co-Organizer, The first Joint Meeting of the Mouse Models of Human Cancer (MMHC) and the Prostate, Pooks Hill Marriott, Bethesda Nov 20-21, 2002.
2. Specialized Program in Cancer Research (SPORE), Bethesda, MD, November 20-21, 2002.

RECOGNITION

Invited Reviews: See References section.

Awards and Honors:

1982-1987 Dean's List - Six Semesters at University of Colorado, Boulder.
1993 Elected to Alpha Omega Alpha (AOA) Society
1997-1998 Research and Clinical Fellowship, NIH Training Grant in Pathobiology of Cancer.
1998 Stowell-Orbison Award for Research by a Pathologist-In-Training, International Academy of Pathology.
1998 [Mentored Clinician Scientist Development Award \(K08\)](#), [National Institutes of Health](#), [National Cancer Institute](#).
1998 & 1999 Harvey/Burroughs Welcome Clinician Scientist Award, The Johns Hopkins Medical Institutions.
2000 Aegon Fellowship in Breast and Prostate Cancer Research
2002 Achievement Award in Scientific Session: [TMAJ, A Johns Hopkins Set of Open Source Software Tools to Manage a Multi-Organ, Scalable, Secure, Multi-User Tissue MicroArray Database. 2002 Meeting: Advancing Pathology Informatics, Imaging and the Internet, Pittsburgh, PA.](#)
2004 [Donald S. Coffey Prostate Cancer Foundation Physician/Scientist Award 2004.](#)
2007 National Institute of Diabetes and Digestive and Kidney Diseases: 2007 STEP-UP Undergraduate Summer Research Program
2008 Pathobiology Graduate Program, Teacher of the Year, 2008.
2009 Department of Urology, Faculty Teaching Award for 2008-2009.

Awards to Trainees During Training:

Alan K. Meeker PhD

- 2002 Young Investigator's Award, Department of Pathology, The Johns Hopkins University School of Medicine
- 2002 AACR-AFLAC Scholar-in-Training Awards. December and August, 2002.
- 2002 Honorable mention, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins: Fellows Research Day Poster Session.
- 2001-2004 Research Fellowship, NIH Training Grant in Urology.
- 2004 American Society for Investigative Pathology, ASIP Merit Award

Masashi Nakayama MD PhD

- 2003 Stowell Orbison Award at the 2003 International Academy of Pathology Meeting.
- 2003 International Society of Genitourinary Pathology, Award for one of top 3 Abstracts at 2003 International Academy of Pathology Meeting.

Bora Gurel MD PhD

- 2008 International Society of Genitourinary Pathology, Award for one of top 3 Abstracts International Academy of Pathology Meeting.
- 2008 Best Poster Award (for one of top 3 posters), The Johns Hopkins University, Annual Prostate Cancer Research Day, Baltimore MD.

Cheryl M. Koh BS

- 2009 Honorable Mention for Best Posters Award, 2009 Inter-institutional Prostate Cancer Meeting (Harvard, Johns Hopkins, Memorial Sloan Kettering, U. Michigan, Baltimore MD).
- 2009 Honorable Mention, Fellow Research Day, Basic Research Award, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins.

Karen S. Sfanos PhD

- 2009 Honorable Mention, Best Poster Award, The Johns Hopkins University, Annual Prostate Cancer Research Day, Baltimore MD.
- 2009 The Johns Hopkins University, Department of Pathology, Young Investigators Day Award in Basic Research.
- 2009 1st Prize, Fellow Research Day, Basic Research Award, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins.

Invited Talks, Panels:

1. Invited Speaker and Panelist, Innovative Solutions for Prostate Cancer Care. Crystal Gateway Marriott, Washington, DC, June 4-6, 1999.
2. Invited Speaker, The Henry Ford Hospital, Depts. of Urology and Pathology, June 28, 1999.
3. Invited Speaker and Panelist, National Cancer Institute Workshop on "Prevention of Prostate Cancer," Baltimore, MD, August 8-9, 1999.
4. Invited Speaker, The American Association of Investigative Pathology Companion Meeting to the United States and Canadian Academy of Pathology, Annual Meeting, New Orleans, LA, March 30, 2000.
5. Invited Speaker, 2000 Keystone Symposium on Advances in Breast and Prostate Cancer, Lake Tahoe, NV, April 30-May 4, 2000.
6. Invited Speaker, LCM Symposium at the NIH: Laser Capture Microdissection and Macromolecular Analysis of Normal Development and Pathology, National Institutes of Health, June 16, 2000.

7. Invited Speaker and Panelist, Molecular Targets for Dietary Prevention of Prostate Cancer, National Cancer Institute, June 16, 2000.
8. Invited Speaker, Pathology Grand Rounds, University of Pittsburgh Medical Center, January 24, 2001.
9. Invited Speaker and Panelist, 2nd International Conference on Innovative Solutions for Prostate Cancer Care. San Diego, CA, February 9-11, 2001.
10. Invited Speaker, Symposium: 92nd Annual Meeting of the American Association for Cancer Research, New Orleans, LA, March 27, 2001.
11. Invited Speaker, the Society for Basic Urological Research (SBUR) at the 96th Annual Meeting of the American Urological Association (AUA), Anaheim, CA, June 2001.
12. Invited Speaker, 9th Annual Coastal Oncology Symposium. Wilmington, NC, October 20, 2001.
13. Invited Speaker and Panelist, Presented at Research Matters: A Conference On Cigarette Restitution Fund Initiatives, at The John Hopkins Sidney Kimmel Comprehensive Cancer Center, November 29, 2001.
14. Invited Speaker, New Discoveries in Prostate Cancer Biology and Treatment, American Association for Cancer Research, Special Conference, Naples, FL, December 5, 2001.
15. Course Instructor, Gene Arrays and Tissue Arrays for Pathologists, The United States-Canadian Division of the International Academy of Pathology 91st Annual Meeting, Chicago, IL, March 1, 2002.
16. Invited Speaker, Prostate Cancer, The Dean & Betty Gallo Prostate Cancer Center Symposium at The Annual Retreat on Cancer Research, New Brunswick, NJ, April 24, 2002.
17. Invited Speaker, Tissue Microarray (TMA) Infrastructure and Standards, Full Day Workshop at The 20th Annual Symposium on Automated Information Management in the Clinical Laboratory, Ann Arbor, MI, May 22, 2002.
18. Invited Speaker, National Cancer Institute Conference on Prostate Cancer, Prouts Neck, ME, November 8, 2002.
19. Invited Speaker and Co-Organizer, The first Joint Meeting of the Mouse Models of Human Cancer (MMHC) and the Prostate Specialized Program in Cancer Research (SPORE), Bethesda, MD, November 20-21, 2002.
20. Invited Speaker, Workshop on Specimen Processing for Molecular Epidemiology Studies, Tissue microarrays: Principles of tissue selection, construction, and data handling, NIH Neuroscience Center, February 24, 2003.
21. Invited Speaker, Department of Pathology, Biennial Meeting Grand Rounds, The Johns Hopkins University School of Medicine, May 2, 2003.
22. Visiting Professor, Memorial Sloan Kettering, Department of Pathology, New York, NY, May 29-30, 2003.
23. Invited Speaker, Free Standing Symposium of International Urologists "Shaping the Future of Medical Management of Prostate Diseases", Rome Italy April 4-5.
24. Invited Speaker, President's Symposium, American Society for Investigative Pathology, Annual Meeting, San Diego Convention Center, San Diego CA, April 14, 2003.
25. Invited Speaker, Ninth Annual SPORE Investigators Workshop, Baltimore MD, Session on markers of diagnosis, early detection and risk assessment July, 11, 2003.
26. Invited Speaker 29th National Society Histotechnology Symposium/Convention Louisville, Kentucky, October 18 - October 23, 2003.
27. Visiting Professor, Northwestern University School of Medicine, Department of Pathology, Dec. 8, 2003.
28. Invited Speaker, Translational Research Conference, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Dec. 3, 2003.
29. Invited Speaker, Think Tank in Molecular Imaging of Prostate Cancer, Bethesda MD, Feb. 2, 2004.
30. Invited Speaker, The Lank Center for Genitourinary Oncology at The Dana-Farber Cancer Institute, Boston, MA, February 4, 2004.
31. Invited Speaker, Talks on Pathogenesis of Prostate Cancer and Prostate Needle Biopsy, The Japanese Urological Association Meeting, Osaka, Japan, April 12, 2004.
32. Invited Speaker, The Italian Society of Urological Pathology Annual Congress, Milan, Italy, April 24, 2004.

33. Invited Speaker, Symposium, on Inflammation and Cancer, AACR Annual Meeting, Orlando, FL, March 30, 2004
34. Invited Speaker, with Elizabeth Platz, The Division of Cancer Epidemiology and Genetics (DCEG) Seminar Series, June 18, 2004.
35. Invited Speaker, The 12th International Congress of Histochemistry and Cytochemistry, San Diego, CA, July 25, 2004.
36. Invited Speaker, The University Of California San Francisco, Department of Pathology, July 27, 2004.
37. Invited Speaker, Symposium IX: Oncogenesis, Angiogenesis and Disease Progression, [The Society for Molecular Imaging 3rd Annual Meeting](#), September 12, 2004.
38. Invited Speaker, IBC's 11th Annual International Microarray and Microtechnology Course, Boston, MA, September 21, 2004.
39. Invited Speaker, National Society For Histotechnology Symposium/Convention, Toronto, Ontario Canada, September 22, 2004.
40. Invited Speaker and Discussion Panel Leader, The Eleventh Annual Scientific Retreat of the Prostate Cancer Foundation (Formally CapCure), Lake Tahoe, NV, October 24, 2004.
41. Invited Speaker, American Association for Cancer Research - Basic, Translational and Clinical Advances in Prostate Cancer, Bonita Springs, FL, Nov. 18, 2004
42. Visiting Professor and Invited Speaker, Venetian Institute of Medicine, Padova, Italy, Nov. 22, 2004.
43. Invited Speaker, "Takeda Genome Urology 2004", Tokyo, Japan, Nov. 27, 2004.
44. Invited Speaker, "Prostate Cancer The Extreme Points, Prevention and Hormone Refractory Disease, Rome Ital, Dec. 3, 2004.
45. Invited Speaker National Biospecimen Network (NBN) Pilot: Second Prostate Cancer SPORE Task Force Informatics Meeting, Jan. 30, 2005, Houston, TX.
46. Invited Speaker for Pathology Grand Rounds, Yale University School of Medicine, March 31, 2005.
47. Invited Speaker for Urology Grand Rounds, Johns Hopkins University School of Medicine, April 28, 2005.
48. Invited Speaker for SBUR/AUA Summer Conference, Baltimore, MD, August 20, 2005.
49. Invited Speaker for National Cancer Research Institute (NCRI Cancer Conference), Birmingham, UK, October 5, 2005.
50. Invited Speaker for Pathology Grand Rounds, Johns Hopkins University School of Medicine, October 24, 2005.
51. Invited Speaker, 3rd International Conference, Innovative Solutions for Cancer Care: Image-Guided, Minimally Invasive Diagnosis and Treatment of Prostate Cancer. The AdMeTech Foundation, Oct. 29, 2005, Washington D.C.
52. Invited Speaker for Separate Basic Science and Clinical Lectures (Prostate Biopsy): 12th Annual Paul C Peters CME Symposium, Dallas TX, Jan. 21, 2006.
53. Invited Speaker: First annual Prostate Cancer Day on Saturday, Baltimore Waterfront Marriott, February 11, 2006.
54. Invited Speaker, Plenary Session, American Society of Clinical Oncology, Prostate Cancer Symposium, San Francisco CA, Feb 25 2006.
55. Invited Speaker: [Molecular Targets for Cancer Prevention, Keystone Symposia](#), Tahoe City, California, March 7, 2006.
56. Invited Speaker: Society for Urological Oncology Annual Meeting, Atlanta Georgia, May 20, 2006.
57. Invited Speaker: First Joint Japanese Urological Association-American Urological Association Meeting, Atlanta Georgia, May 21, 2006
58. Invited Speaker: State of the Art Lecture, Plenary Session: American Urological Association Annual Meeting, Atlanta Georgia, May 24th, 2006.
59. Invited Speaker: Workshop on Imaging Science Development for Cancer Prevention and Preemption, Hilton Hotel, Gaithersburg, Maryland, July 10–11, 2006.
60. Invited Speaker: International Research Conference on Food, Nutrition and Cancer, Washington D.C. American Institute for Cancer Research. July 13-14, 2006.

61. Invited Speaker: International Academy of Pathology Centennial Congress. Montreal, Québec, Canada, September 16-21, 2006.
62. Invited Speaker: Fred Hutchinson Cancer Center, University of Washington, Seattle Washington, September 21, 2006.
63. Invited Speaker: George O'Brien Urology Seminar Series Harvard Urological Diseases Research Center at Children's Hospital, Boston MA, September 25, 2006.
64. Invited Speaker, UW O'Brien Urology Research Center, University of Wisconsin SOM, October 13, 2006.
65. Invited Speaker: Advancement in Prostate Cancer Congress, Hilton Metropole Hotel, Nov. 10-11, Florence, Italy 2006.
66. Invited speaking Joint Society for Urological Oncology/ American Society for Clinical Oncology Prostate Cancer Symposium, Orlando FL, Feb 22, 2007.
67. Betty and Melbourne Lent Visiting Professor of Urology, State University of New York, University at Buffalo, March 8-9, 2007.
68. Invited Speaker: Dana-Farber Cancer Institute, Harvard Medical School. Special Seminars. May 2, 2007.
69. Invited Speaker Vanderbilt-Ingram Cancer Center's Seminar Series, Aug. 30, 2007.
70. Invited Speaker, Plenary Session, Innovative Minds in Prostate Cancer (IMPACT) Meeting, Hyatt Regency, Atlanta, Sept. 5-8, 2007.
71. Invited Speaker, 7th World Basic Urological Research Congress, Dublin Ireland Sept 28, 2007.
72. Invited Speaker, Prostate Cancer Foundation Annual Retreat Incline Village, Lake Tahoe Oct. 13, 2007
73. Invited Speaker, University of Massachusetts Cancer Center, October 23, 2007.
74. Invited Speaker, International Society of Urological Pathology USCAP Companion Symposium, March 1, 2008.
75. Invited Speaker, American Society of Andrology, Albuquerque, NM, April 15, 2008.
76. Invited Speaker, IV International Conference Urology in the Future, Madrid, Spain, April 26, 2008.
77. Invited Speaker, CPDR Saturday Distinguished Professor Seminar, Rockville, MD, May 10, 2008.
78. Invited Speaker, Department of Cancer Biology, the Thomas Jefferson University, September 25, 2008.
79. Invited Speaker, the Garvan Institute, Sydney Australia, November 13, 2008.
80. Invited Speaker, the Australian Prostate Cancer Council Annual Symposium, Brisbane Australia, November 19, 2008.
81. Invited Speaker, Monash Institute of Medical Research, Melbourne Australia, November 21, 2008.
82. Invited Speaker, Admetech, Consensus Conference on Prostate Imaging, Bethesda MD, Jan. 12-13, 2009.
83. Invited Speaker, The Cancer Institute of New Jersey Comprehensive Cancer Center, February 4, 2009.
84. Invited Speaker, Department of Pharmacology, Howard University College of Medicine, Washington D.C., March 4, 2009.
85. Invited Speaker, Grand Rounds, The Department of Pathology, The Johns Hopkins University SOM, April 13, 2009.
86. Invited Speaker, Plenary Session, International Society for Magnetic Resonance Imaging, Honolulu HI, April 24, 2009.
87. Invited Speaker, ASCO/AACR Workshop: Methods in Clinical Cancer Research, Vail CO, August 3, 2009.