

**CURRICULUM VITAE**  
**University of Pittsburgh**  
**School of Medicine**

**BIOGRAPHICAL**

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**EDUCATION AND TRAINING**

**UNDERGRADUATE & GRADUATE:**

<b>Dates Attended</b>	<b>Name &amp; Location of Institution</b>	<b>Degree Received &amp; Year</b>	<b>Major Subject</b>
1/2009-1/2012	University of Pittsburgh Joseph M. Katz Graduate School of Business University of Pittsburgh, Pittsburgh, PA	Part-time MBA April 2012	John Delaney, Ph.D. Dean, Katz School of Business, University of Pittsburgh, Pittsburgh, PA
8/1979-12/1983	All-India Institute Medical Sciences New Delhi, India	MBBS January 1985 (after completion of compulsory year (1984) of Internship	Medicine & Surgery

**POST-GRADUATE:**

<b>Dates Attended</b>	<b>Name &amp; Location of Institution</b>	<b>Degree Received &amp; Year</b>	<b>Name of Program Director and Discipline</b>
1/2007-4/2007	University of Pittsburgh Joseph M. Katz Graduate School of Business Center for Executive Education Pittsburgh, PA	UPMC/PSD-Katz Leadership & Management Certificate	Carrie Leana Academic Director
7/1996 – 10/1997	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	Fellow	Marick Masters Academic Co-Director M.J. Becich, MD, Ph.D. Genitourinary Pathology
7/1993 – 6/1996	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	2 <sup>nd</sup> -4 <sup>th</sup> year resident	S.A. Yousem, MD. Pathology (AP/CP)
7/1992 – 6/1993	Berkshire Medical Center, Pittsfield, MA	First year resident	R. Johnson, MD. Pathology (AP/CP)
7/1989 – 6/1992	AllIndia Institute Medical Sciences, New Delhi, India	Senior Resident	S. Roy, MD.
7/1986 – 6/1989	AllIndia Institute Medical Sciences,	Resident	N.C. Nayak, MD. Pathology.

New Delhi, India

1/1985-1/1986	AllIndia Institute Medical Sciences, New Delhi, India	House Physician	S.K. Kacker, MD. Medicine and Medical Oncology
1/1984-12/1984	AllIndia Institute Medical Sciences, New Delhi, India	Intern	H.D. Tandon, MD. Medicine and Surgery

**APPOINTMENTS and POSITIONS**

**ACADEMIC**

<b>Years Inclusive</b>	<b>Name and Location of Institution</b>	<b>Rank/Title</b>
2015-Present	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	Vice-Chair of Pathology
2010-Present	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	Professor in the Clinical and Translational Science Institute
2010-Present	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	Professor of Biomedical Informatics, secondary appointment
2007-Present	Department of Pathology, Shadyside Hospital University of Pittsburgh Medical Center Pittsburgh, PA	Chief of Pathology
2007-2010	University of Pittsburgh School of Medicine Department of Pathology Pittsburgh, PA	Associate Professor of Biomedical Informatics, secondary appointment
2005-2010	University of Pittsburgh School of Medicine Department of Pathology Pittsburgh, PA	Associate Professor
1997 - 2005	University of Pittsburgh School of Medicine Department of Pathology Pittsburgh, PA	Assistant Professor

**NON-ACADEMIC**

<b>Years Inclusive</b>	<b>Name and Location of Institution</b>	<b>Rank/Title</b>
1/2012-present	<b>American Instt. Of Pathology and Laboratory Sciences, Hyderabad, India</b> (a UPMC affiliated facility)	Co-Medical Director, Member of Scientific Advisory Board Member, Executive Oversight Board
1/2011-present	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	<b>Director, Pathology International Business Development</b>
7/2002-present	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	Director, Center of Excellence, Genitourinary Pathology
7/2002-present	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	Fellowship Director, Genitourinary Pathology
7/2002-present	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	Director, Paraffin Tissue Array Facility
7/2001- present	University of Pittsburgh Medical Center	Medical Director, Gross

	Department of Pathology Pittsburgh, PA	Room Facilities
7/1999- present	University of Pittsburgh Medical Center IRB Committee Pathology Pittsburgh, PA	Member IRB Committee
7/1998- present	University of Pittsburgh Medical Center Department of Pathology Pittsburgh, PA	Director, Health Sciences Tissue Bank

## CERTIFICATION AND LICENSURE

### SPECIALTY CERTIFICATION

Certifying Board	Year
American Board of Pathology (Anatomic and Clinical Pathology)	1998

### MEDICAL OR OTHER PROFESSIONAL LICENSURE

Licensing Board/State	Year
Pennsylvania, License No. MD-063267-L	1996 (Expires 12/31/2016)
Permanent certification by the Educational Commission for Foreign Medical Graduates (ECFMG)	1993

## MEMBERSHIPS IN PROFESSIONAL and SCIENTIFIC SOCIETIES

Organization	Year
American Society for Clinical Oncology	2014-Present
Association for Molecular Pathology	2013-Present
American Urological Association	2003-Present
Association of Pathology Informatics	2001-Present
International Society for Biological and Environmental Repositories	2000-Present
International Association of Pathology	1998-Present
University of Pittsburgh Cancer Institute	1998-Present
International Society of Urologic Pathology	1998-Present
Pittsburgh Pathology Society	1994-Present
College of American Pathologists	1992-Present
American Society of Clinical Pathologists	1992-Present
US and Canadian Academy of Pathology	1992-Present

## HONORS

Title of Award	Year
UPMC ACES ( Award for Commitment and Excellence in Service)	2014
Adrianna Selvaggio Dedication to Commitment and Quality Award from the Shadyside Hospital Medical Staff and Administration	2013
Smith Kline Beecham Travel Award from the Society for Basic Urologic Research	1995
Finalist, Pathology Resident Awards, American Society for Clinical Pathology	1995
National Talent Search Scheme Award, given by the National Council for Educational Research and Training, New Delhi, India.	1979
National Award by the Govt. of India	1978
National Award by the Govt. of India	1977

## PUBLICATIONS

### Peer Reviewed (154)

1. A Federated Network for Translational Cancer Research Using Clinical Data and Biospecimens. Jacobson RS, Becich MJ, Bollag RJ, Chavan G, Corrigan J, Dhir R, Feldman MD, Gaudioso C, Legowski E, Maihle NJ, Mitchell K, Murphy M, Sakthivel M, Tseytlin E, Weaver J. *Cancer Res.* 2015 Dec 15;75(24):5194-201. The Molecular Taxonomy of Primary Prostate Cancer. Cancer Genome Atlas Research Network. *Cell.* 2015 Nov 5;163(4):1011-25. PMID: 26544944.
2. The Molecular Taxonomy of Primary Prostate Cancer. Cancer Genome Atlas Research Network. *Cell.* 2015 Nov 5;163(4):1011-25. PMID: 26544944.
3. Comprehensive Molecular Characterization of Papillary Renal-Cell Carcinoma. Cancer Genome Atlas Research Network. *N Engl J Med.* 2015 Nov 4. PMID: 26536169.
4. Validation and utilization of a TFE3 break-apart FISH assay for Xp11.2 translocation renal cell carcinoma and alveolar soft part sarcoma. Pradhan D, Roy S, Quiroga-Garza G, Cieply K, Mahaffey AL, Bastacky S, Dhir R, Parwani AV. *Diagn Pathol.* 2015 Sep 29;10(1):179. PMID: 26415891
5. Splicing Factor Prp8 Interacts With NES(AR) and Regulates Androgen Receptor in Prostate Cancer Cells. Wang D, Nguyen MM, Masoodi KZ, Singh P, Jing Y, O'Malley K, Dar JA, Dhir R, Wang Z. *Mol Endocrinol.* 2015 Dec;29(12):1731-42. PMID: 26371515.
6. Genomic Classification of Cutaneous Melanoma. Cancer Genome Atlas Network. *Cell.* 2015 Jun 18;161(7):1681-96. PMID: 26091043.
7. Data Representation, Coding, and Communication Standards. Amin M, **Dhir R.** *Surg Pathol Clin.* 2015 Jun;8(2):109-21.
8. Targeted resequencing of P-arm, chromosome 9 genes associated with Renal Papillary Type 2 Cancer. William A LaFramboise<sup>1</sup>, Patricia Petrosko<sup>1</sup>, Maureen A Lyons-Weiler<sup>1</sup>, Christin M Sciulli<sup>1</sup>, Michael A Belsky<sup>1</sup>, Michael J Becich<sup>1</sup>, J Michael Krill-Burger<sup>1</sup>, Clinton J Miller<sup>2</sup>, Gavin D Meredith<sup>3</sup>, Sheldon I Bastacky<sup>1</sup>, Anil V Parwani<sup>1</sup>, **Rajiv Dhir**<sup>1</sup>. Accepted; *American Journal of Pathology.*
9. Integrated genomic characterization of papillary thyroid carcinoma. Cancer Genome Atlas Research Network. Electronic address: giordano@umich.edu; Cancer Genome Atlas Research Network. *Cell.* 2014 Oct 23;159(3):676-90. PMID:25417114.
10. Renal medullary carcinoma: case report of an aggressive malignancy with near-complete response to dose-dense methotrexate, vinblastine, Doxorubicin, and Cisplatin chemotherapy. Amjad AI, Ali H, Appleman LJ, Maranchie J, Jackman S, Parwani A, Dhir R, Roy S, Parikh RA. *Case Rep Oncol Med.* 2014;2014:615895.
11. Comprehensive molecular profiling of lung adenocarcinoma. Cancer Genome Atlas Research Network. *Nature.* 2014 Jul 31; 511(7511):543-50.
12. Comprehensive molecular characterization of gastric adenocarcinoma. Cancer Genome Atlas Research Network. *Nature.* 2014 Sep 11;513(7517):202-9.
13. Argument for prostate cancer screening in populations of African-Caribbean origin. Patrick A, Bunker C, Nelson J, Dhir R, Wheeler V, Zmuda J, Richard JR, Belle A, Kuller L. *BJU Int.* 2014 Jul 21.
14. Comprehensive molecular characterization of urothelial bladder carcinoma. Cancer Genome Atlas Research Network. *Nature.* 2014 Mar 20;507(7492):315-22.
15. Amylase  $\alpha$ -1A (AMY1A): a novel immunohistochemical marker to differentiate chromophobe renal cell carcinoma from benign oncocytoma. Jain S, Roy S, Amin M, Acquafondata M, Yin M, Laframboise W, Bastacky S, Pantanowitz L, Dhir R, Parwani A. *Am J Surg Pathol.* 2013 Dec;37(12):1824-30.
16. Frozen section diagnosis: is there discordance between what pathologists say and what surgeons hear? Roy S, Parwani AV, Dhir R, Yousem SA, Kelly SM, Pantanowitz L. *Am J Clin Pathol.* 2013 Sep;140(3):363-9.
17. Comprehensive molecular characterization of clear cell renal cell carcinoma. Cancer Genome Atlas Research Network. *Nature.* 2013 Jul 4;499(7456):43-9.
18. Integrated genomic characterization of endometrial carcinoma. Cancer Genome Atlas Research Network, Kandoth C, Schultz N, Cherniack AD, Akbani R, Liu Y, Shen H, Robertson AG, Pashtan I, Shen R, Benz

- CC, Yau C, Laird PW, Ding L, Zhang W, Mills GB, Kucherlapati R, Mardis ER, Levine DA. *Nature*. 2013 May 2;497(7447):67-73.
19. Serum protein profiles predict coronary artery disease in symptomatic patients referred for coronary angiography. Laframboise WA, **Dhir R**, Kelly LA, Petrosko P, Krill-Burger JM, Sciulli CM, Lyons-Weiler MA, Chandran UR, Lomakin A, Masterson RV, Marroquin OC, Mulukutla SR, McNamara DM. *BMC Med*. 2012 Dec 5;10(1):157.
  20. Employing the Epigenetic Field Defect to Detect Prostate Cancer in Biopsy-Negative Patients. Truong M, Yang B, Livermore A, Wagner J, Weeraturanga P, Huang W, **Dhir R**, Nelson J, Lin DW, Jarrard DF. *J Urol*. 2012 Nov 15.
  21. Clinical integration of next-generation sequencing technology. Gullapalli RR, Lyons-Weiler M, Petrosko P, **Dhir R**, Becich MJ, Laframboise WA. *Clin Lab Med*. 2012 Dec;32(4):585-99.
  22. Comprehensive molecular portraits of human breast tumours. **Cancer Genome Atlas Network**. *Nature*. 2012 Oct 4;490(7418):61-70.
  23. Comprehensive genomic characterization of squamous cell lung cancers. **Cancer Genome Atlas Research Network**, *Nature*. 2012 Sep 27;489(7417):519-25.
  24. Biomarkers of phenethyl isothiocyanate-mediated mammary cancer chemoprevention in a clinically relevant mouse model. Singh SV, Kim SH, Sehrawat A, Arlotti JA, Hahm ER, Sakao K, Beumer JH, Jankowitz RC, Chandra-Kuntal K, Lee J, Powolny AA, **Dhir R**. *J Natl Cancer Inst*. 2012 Aug 22;104(16):1228-39.
  25. Comprehensive molecular characterization of human colon and rectal cancer. *Cancer Genome Atlas Network*. *Nature*. 2012 Jul 18;487(7407):330-7.
  26. Renal cell neoplasms contain shared tumor type-specific copy number variations. Krill-Burger JM, Lyons MA, Kelly LA, Sciulli CM, Petrosko P, Chandran UR, Kubal MD, Bastacky SI, Parwani AV, **Dhir R**, Laframboise WA. *Am J Pathol*. 2012 Jun;180(6):2427-39. Epub 2012 Apr 3.
  27. Molecular characterization of neuroendocrine prostate cancer and identification of new drug targets. Beltran H, Rickman DS, Park K, Chae SS, Sboner A, MacDonald TY, Wang Y, Sheikh KL, Terry S, Tagawa ST, **Dhir R**, Nelson JB, de la Taille A, Allory Y, Gerstein MB, Perner S, Pienta KJ, Chinnaiyan AM, Wang Y, Collins CC, Gleave ME, Demichelis F, Nanus DM, Rubin MA. *Cancer Discov*. 2011 Nov;1(6):487-95.
  28. Pre-treatment tumor expression of ERCC1 in women with advanced stage epithelial ovarian cancer is not predictive of clinical outcomes: A gynecologic oncology group study. Rubatt JM, Darcy KM, Tian C, Muggia F, **Dhir R**, Armstrong DK, Bookman MA, Niedernhofer LJ, Deloia J, Birrer M, Krivak TC. *Gynecol Oncol*. 2012 Jan 16.
  29. Altered CXCR3 Isoform Expression Regulates Prostate Cancer Cell Migration and Invasion. Wu Q, **Dhir R**, Wells A. *Mol Cancer*. 2012 Jan 11;11(1):3.
  30. Relative quantitation of proteins in expressed prostatic secretion with a stable isotope labeled secretome standard. Zhao T, Zeng X, Bateman NW, Sun M, Teng PN, Bigbee WL, **Dhir R**, Nelson JB, Conrads TP, Hood BL. *J Proteome Res*. 2012 Feb 3;11(2):1089-99.
  31. Development and independent validation of a prognostic assay for stage II colon cancer using formalin-fixed paraffin-embedded tissue. Kennedy RD, Bylesjo M, Kerr P, Davison T, Black JM, Kay EW, Holt RJ, Proutski V, Ahdesmaki M, Farztdinov V, Goffard N, Hey P, McDyer F, Mulligan K, Mussen J, O'Brien E, Oliver G, Walker SM, Mulligan JM, Wilson C, Winter A, O'Donoghue D, Mulcahy H, O'Sullivan J, Sheahan K, Hyland J, **Dhir R**, Bathe OF, Winqvist O, Manne U, Shanmugam C, Ramaswamy S, Leon EJ, Smith WI Jr, McDermott U, Wilson RH, Longley D, Marshall J, Cummins R, Sargent DJ, Johnston PG, Harkin DP. *J Clin Oncol*. 2011 Dec 10;29(35):4620-6.
  32. Partial Mesenchymal to Epithelial Reverting Transition in Breast and Prostate Cancer Metastases. Chao Y, Wu Q, Acquafondata M, **Dhir R**, Wells A. *Cancer Microenviron*. 2011 Sep 3.
  33. Integrated genomic analyses of ovarian carcinoma. *Cancer Genome Atlas Research Network*. *Nature*. 2011 Jun 29;474(7353):609-15.
  34. Identification of Hydroxysteroid (17 $\beta$ ) dehydrogenase type 12 (HSD17B12) as a CD8(+) T-cell-defined human tumor antigen of human carcinomas. Visus C, Ito D, **Dhir R**, Szczepanski MJ, Chang YJ, Latimer JJ, Grant SG, Deleo AB. *Cancer Immunol Immunother*. 2011 Mar 16.
  35. Increased cancer cell proliferation in prostate cancer patients with high levels of serum folate. Tomaszewski JJ, Cummings JL, Parwani AV, **Dhir R**, Mason JB, Nelson JB, Bacich DJ, O'Keefe DS. *Prostate*. 2011 Feb 9.

36. Differential proteomic analysis of renal cell carcinoma tissue interstitial fluid. Teng PN, Hood BL, Sun M, **Dhir R**, Conrads TP. *J Proteome Res*. 2011 Mar 4;10(3):1333-42.
37. Hypoexpression and epigenetic regulation of candidate tumor suppressor gene CADM-2 in human prostate cancer. Chang G, Xu S, **Dhir R**, Chandran U, O'Keefe DS, Greenberg NM, Gingrich JR. *Clin Cancer Res*. 2010 Nov 15;16(22):5390-401.
38. Combined analysis of estrogen receptor {beta}-1 and progesterone receptor expression identifies lung cancer patients with poor outcome. Stabile LP, Dacic S, Land SR, Lenzner DE, **Dhir R**, Acquafondata M, Landreneau RJ, Grandis JR, Siegfried JM. *Clin Cancer Res*. 2011 Jan 1;17(1):154-64.
39. A decade of experience in the development and implementation of tissue banking informatics tools for intra and inter-institutional translational research. Amin W, Singh H, Pople AK, Winters S, **Dhir R**, Parwani AV, Becich MJ. *J Pathol Inform*. 2010 Aug 10;1.
40. Initial experience with a novel pre-sign-out quality assurance tool for review of random surgical pathology diagnoses in a subspecialty-based university practice. Owens SR, Wiehagen LT, Kelly SM, Piccoli AL, Lassige K, Yousem SA, **Dhir R**, Parwani AV. *Am J Surg Pathol*. 2010 Sep;34(9):1319-23.
41. Expression analysis of Ubc9, the single small ubiquitin-like modifier (SUMO) E2 conjugating enzyme, in normal and malignant tissues. Moschos SJ, Jukic DM, Athanassiou C, Bhargava R, Dacic S, Wang X, Kuan SF, Fayewicz SL, Galambos C, Acquafondata M, **Dhir R**, Becker D. *Hum Pathol*. 2010 Sep;41(9):1286-98. Epub 2010 Jun 18.
42. Renal oncocytoma: a comparative clinicopathologic study and fluorescent in-situ hybridization analysis of 73 cases with long-term follow-up. Dvorakova M, **Dhir R**, Bastacky SI, Cieply KM, Acquafondata MB, Sherer CR, Mercuri TL, Parwani AV. *Diagn Pathol*. 2010 May 24;5:32.
43. The development and testing of a laboratory information system-driven tool for pre-sign-out quality assurance of random surgical pathology reports. Owens SR, **Dhir R**, Yousem SA, Kelly SM, Piccoli A, Wiehagen L, Lassige K, Parwani AV. *Am J Clin Pathol*. 2010 Jun;133(6):836-41.
44. Talin1 promotes tumor invasion and metastasis via focal adhesion signaling and anoikis resistance. Sakamoto S, McCann RO, **Dhir R**, Kyprianou N. *Cancer Res*. 2010 Mar 1;70(5):1885-95. Epub 2010 Feb 16.
45. LaFramboise WA, Petrosko P, Krill-Burger JM, Morris DR, McCoy AR, Scalise D, Malehorn DE, Guthrie RD, Becich MJ, **Dhir R**. Proteins secreted by embryonic stem cells activate cardiomyocytes through ligand binding pathways. *J Proteomics* 2010 Jan 4:992-1003.
46. Gassei K, Ehmcke J, **Dhir R**, Schlatt S. Magnetic activated cell sorting allows isolation of spermatogonial adult primate testes and reveals distinct GFRa1-positive subpopulation of men. *J Med Primatology* 2009 Dec 15.
47. O'Malley KJ, Dhir R, Nelson JB, Bost J, Lin Y, Wang Z. The expression of androgen-responsive genes is up-regulated in epithelia of benign prostatic hyperplasia. *Prostate* 2009 Dec 1;69(16):1716-23.
48. Yildiz IZ, Recavarren R, Armah HB, Bastacky S, **Dhir R**, Parwani AV. Utility of a dual immunostain cocktail comprising of p53 and CK20 in the diagnosis of non-neoplastic and neoplastic bladder biopsies. *Diagn Pathol* 2009;4:35.
49. Bhagwat NR, Roginskaya VY, Acquafondata MB, **Dhir R**, Wood RD, Niede LJ. Immunodetection of DNA repair endonuclease ERCC1-XPF in human tissue. *Cancer Research* 2009 Sept 1;69(17):6831-8.
50. Mahesh Alur, Minh M. Nguyen, Scott E. Eggener, Feng Jiang, Soheil S. Dadras, Jeffrey Stern, Simon Kimm, Kim Roehl, James Kozlowski<sup>§</sup>, Michael Pins, Marek Michalak, **Rajiv Dhir** and Zhou Wang. Suppressive Roles of Calreticulin in Prostate Cancer Growth and Metastasis. *American J. of Pathology* 2009 Aug;175(2):882-90.
51. Praveen R. Anchala, **Rajiv Dhir**, Anil V. Parwani, Debra L. Zynger. Immunohistochemical Profile of Paratesticular Serous Papillary Adenocarcinoma and Tunica Vaginalis Facilitates Differentiation From Malignant Mesothelioma. *INT J Surg Pathol*, June 3, 2009.
52. Robert Hewitt, MD, Peter H. Watson, MB BChir, **Rajiv Dhir, MD**, Roger Aamodt, PhD, Gerry Thomas, PhD, Dan Mercola, MD, William E. Grizzle, MD, Manuel M. Morente, MD. Timing of consent for the research use of surgically removed tissue: Is Postoperative Consenting Acceptable? *Cancer* 2008 Oct 1;115(1):4-9.
53. Shivendra V. Singh, Anna A. Powolny, Silvia D. Stan, Dong Xiao, Julie A. Arlotti, Renaud Warin, Eun-Ryeong Hahm, Stanley W. Marynowski, Ajay Bommareddy, Douglas M. Potter, and **Rajiv Dhir**. Garlic Constituent Diallyl Trisulfide Prevents Development of Poorly Differentiated Prostate Cancer and Pulmonary Metastasis Multiplicity in TRAMP Mice. *Cancer Res* 2008; 68(22):9503-11.

55. Hagenkord JM, Parwani AV, Lyons-Weiler MA, Alvarez K, Amato R, Gatalia Z, Gonzalez-Berjon JM, Peterson L., **Dhir R**, Monzon FA. Virtual kayotyping with SNP microarrays reduces uncertainty in diagnosis of renal epithelial tumors. *Diagn Pathol* 2008 Nov;3(1):44.
56. Chen ZH, Kim HP, Sciruba FC, ee SJ, Feghali-Bostwick C, Stolz DB, **Dhir R**, Landreneau RJ, Schuchert MJ, Yousem SA, Nakahira K, Pilewski JM, Lee Zhang Y, Ryter SW, Choi AM. Egr-1 regulates autophagy in cigarette smoke-induced chronic obstructive pulmonary disease. *PLoS ONE* 2008;3(10):e3316.
57. Amin W, Parwani AV, Schmandt L, Mohanty SK, Farhat G, Pople AK, Winters SB, Whelan NB, Schneider Am, Milnes JT,Valdivieso Fa, Feldman M, Pass HI, **Dhir R**, Melamed J, Becich MJ. National Mesothelioma Virtual Bank: a standard based biospecimen and clinical data resource to enhance translational research. *BMC Cancer* 2008;8:236.
58. **Dhir R**. Patel AA, Winters S, Bisceglia M, Swanson D, Aamodt R, Becich MJ. A multi-disciplinary approach to honest broker services for tissue banks and clinical data: a pragmatic and practical model. *Cancer* 2008 Oct1;113(7):1705-15.
59. Muller T, Eildermann K, **Dhir R**, Schlatt S, Behr R. Human reproduction. 2008 Oct;23(10):2292-8.
60. Gologan A. Acquafondaata M, **Dhir R**, Sepulveda AR. Polymeric immunoglobulin receptor-negative tumors representing a type of aggressive type of adenocarcinomas of distal esophagus and gastroesophageal junction. *Archives of Pathology and Laboratory Medicine* 2008 Aug;132(8):1295-301.
61. **Dhir, R**. Prostate cancer biobanking. *Curr Opin Urol* 2008 May;18:309-314.
62. **Dhir R**. Tissue microarrays: an overview. *Methods Mol Biol.* 2008;441:91-103.
63. Monzon FA, Hagenkord JM, Lyons-Weiler MA, Balani JP, Parwani AV, Sciulli CM, Li J, Chandran UR, Bastacky SI, **Dhir R**. Whole genome SNP arrays as a potential diagnostic tool for the detection of characteristic chromosomal aberrations in renal epithelial tumors. *Mod Pathol.* 2008 May;21(5):599-608.
64. Mullins C, Lucia MS, Hayward SW, lee JY, Levitt JM, in VK, Liu BC, Chinnaiyan AM, Rubin Ma, Slawin K, Star RA,Getzenberg RH, MPSA Consortium. *J of Urology* 2008;179(4):1243-56.
65. Mohanty SK, Mistry AT, Amin W, Parwani AV, Pople AK, Schmandt L, Winters SB, Milliken E, Kim P, Whelan NB, Farhat G, Melamed J, Taioli E, **Dhir R**, Pass HI, Becich MJ. The development and deployment of Common Data Elements for tissue banks for translational research in cancer - an emerging standard based approach for the Mesothelioma Virtual Tissue Bank. *BMC Cancer.* 2008 Apr 8;8:91.
66. Chris Mullins, M. Scott Lucia, Simon W. Hayward, Jeannette Y. Lee, Jonathan M. Levitt, Victor K. Lin, Brian C.-S. Liu, Arul M. Chinnaiyan, Mark A. Rubin, Kevin Slawin, Robert A. Star, Robert H. Getzenberg and MPSA Consortium. A comprehensive approach toward novel serum biomarkers for benign prostatic hyperplasia: the MPSA Consortium. *J Urol.* 2008 Apr;179(4):1243-56.
67. Lyons-Weiler M, Hagenkord J, Sciulli C, **Dhir R**, Monzon FA. Optimization of the Affymetrix GeneChip Mapping 10K 2.0 Assay for routine clinical use on formalin-fixed paraffin-embedded tissues. *Diagn Mol Pathol.* 2008 Mar;17(1):3-13.
68. Yin M, Bastacky S, Chandran U, Becich MJ, **Dhir R**. Prevalence of Incidental Prostate Cancer in the General Population: A Study of Healthy Organ Donors. *J Urol.* 2008 Mar;179(3):892-5; discussion 895.
69. Philips BJ, **Dhir R**, Hutzley J, Sen M, Kelavkar UP. Polyunsaturated Fatty Acid Metabolizing 15-Lipoxygenase-1 (15-L0-1) Expression in Normal and Tumorigenic Human Bladder Tissues. *Appl Immunohistochem Mol Morphol* 2008 Mar;16(2):159-64.
70. Ziao W, Zhang Q, Habrmacher G, Yang X, Zhang AY, Cai X, Hahn J, Liu J, Pins M, Doglio L, **Dhir R**, Gingrich J, Wang Z. U19/Eaf2 knockout causes lung adenocarcinoma, B-cell lymphoma hepatocellular carcinoma and prostatic intraepithelial neoplasia. *Oncogene* 2008 Mar;27(11):1536-44.
71. Yin M, Bastacky S, Parwani AV, McHale T, **Dhir R**. p16(ink4) immunoreactivity is a reliable marker for urothelial carcinoma in situ. *Hum Pathol.* 2008 Jan.
72. Visus C, Ito D, Amoscato A, Maciejewska-Franczak M, Abdelsalem A, **Dhir R**, Shin DM, Donnenberg VS, Whiteside TL, DeLeo AB. Identification of human aldehyde dehydrogenase 1 family member A1 as a novel CD8+1-cell-defined tumor antigen in squamous cell carcinoma of the head and neck. *Cancer Res.* 2007 Nov 1;67(21):10538-45.
73. Yin M, **Dhir R**, Parwani AV. Diagnostic utility of p501s (prostein) in comparison to prostate specific antigen (PSA) for the detection of metastatic prostatic adenocarcinoma. *Diagn Pathol.* 2007 Oct 27;2:41.
74. Xiao W, Zhang Q, Habermacher G, Yang X, Zhang AY, Cai X, Hahn J, Liu J, Pins M, DoglioL, **Dhir R**, Gingrich J, Wang Z. U19/Eaf2 knockout causes lung adenocarcinoma, B-cell lymphoma, hepatocellular carcinoma and prostatic intraepithelial neoplasia. *Oncogene.* 2007 Sept. 17;(Epub ahead of print)
75. Chandran UR, Ma C, **Dhir R**, Bisceglia M, Lyons-Weiler M, Liang W, Michalopoulos G, Becich M, Monzon

- FA. Gene expression profiles of prostate cancer reveal involvement of multiple molecular pathways in the metastatic process. *BMC Cancer*. 2007 Apr 12;7(1):64.
76. Kajdacsy-Balla A, Geynisman JM, Macias V, Setty S, Nanaji NM, Berman JJ, Dobbin K, Melamed J, Kong X, Bosland M, Orenstein J, Bayerl J, Becich MJ, **Dhir R**, Datta MW. Practical aspects of planning, building, and interpreting tissue microarrays: The Cooperative Prostate Cancer Tissue Resource experience. *J Mol Histol*. 2007 Feb 21.
  77. Cano P, Godoy A, Escamilla R, **Dhir R**, Onate SA. Stromal-epithelial cell interactions and androgen receptor-coregulator recruitment is altered in the tissue microenvironment of prostate cancer. *Cancer Res*. 2007 Jan 15;67(2):511-9.
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### **Non-peer Reviewed**

#### **INVITED MANUSCRIPTS**

1. Identification and Correction of Errors in the Anatomic Pathology Gross Room. **Dhir R**, Jennifer L. Condel, BS, Sct(ASCP), MT, and Stephen S. Raab, MD. *Pathology Case Reviews* 2005;10.
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3. **Dhir, R**, Gilbertson J, Becich MJ. Developments in Tissue Banking for the Post-Genome Era. *Advances in Anatomic Pathology* 8(4): 2001, July.

#### **Chapter – Non-peer Reviewed**

1. **Dhir, R**, Editor Board of Urologic Oncology for News and Topics 2011.
2. **Dhir, R**. Editor, Genitourinary Pathology section. 2008 *Year Book of Pathology and Laboratory Medicine*; Elsevier.
3. **Dhir R**. Tissue microarrays: an overview. *Tissue Proteomics: Pathways, Biomarkers, and Drug Discovery.* Editor: Brian C.S. Liu; Humana.
4. **Dhir, R**. Editor, Genitourinary Pathology section. 2007 *Year Book of Pathology and Laboratory Medicine*; Elsevier.
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#### **Thesis**

Value of electron microscopy and intermediate filament typing in the diagnosis of round cell tumors of childhood. Thesis submitted and approved in Dec. 1988 by the faculty of the AllIndia Institute of Medical Sciences, New Delhi, India.

#### **Other Publications**

1. October 98: "Millennium collaborates with leading clinical centers" *Nature Biotechnology* 16(10):897, 1998.

### **Published Abstracts (73)**

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21. Konety BR, **Dhir R**, Bastacky S, Vivas C, Brofsky A, Trump D, Becich M.J, Krill D, Patrick AL., Vivads C, Brufsky A, Bartoletta R, Kuller L. Comparison of the Features of Prostate Cancer Diagnosed in the United States and in an Afro-Caribbean Population. Presented at the American Urological Association 95th Annual Meeting, Atlanta, GA 4/00, poster 4, 2000.
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23. Arlotti J A, Cimino T S, Nguyen T-ST, **Dhir R.**, Thomas A., Jaynes J M, Caldwell A L, and Getzenberg RH. Efficacy of a Synthetic Lytic Peptide in the Treatment of Prostate Cancer. Presented at the American Urological Association Meeting, Atlanta, Georgia, 2000.
24. Konety B R, Lavelle J P, Pirtskalaishvili G, Calleary J G, Meyers S A., Ramage R, **R Dhir**, Zeidel ML, and Getzenberg RH. Evaluation of Vitamin D in the Prevention and Treatment of Bladder Cancer. Presented at the American Urological Association Meeting, Atlanta, Georgia, 2000.
25. Konety BR, Lemman E, Vietmeier BN, Arlotti J, **Dhir R.**, and Getzenberg RH. In Vitro and In Vivo Effects of Vitamin D Administration on the Normal Neonatal and Pre-Pubertal Prostate. Presented at the American Urological Association Meeting, Atlanta, Georgia, 2000.
26. Krill D, Konety B, Wagner T, **Dhir R**, Becich MJ. Risk Factors of Invasion of the Capsule in Prostate Cancer. Presented at the AACR annual meeting.
27. Patrick AL, Bunker CH, Konety BR, Brufsky AM, Vivas CA., **Dhir R**, Becich MJ, Trump DL, Kuller LH. Positive Predictive Value of Prostate Specific Antigen (> 4 ng/ml) and Abnormal Digital Rectal Exam for Prostate Cancer on the Caribbean Island of Tobago. Presented at the 45th Caribbean Health Research Council meeting, April 20-22, 2000, Trinidad, Tobago.
28. Patrick AL, Bunker CH, Brufsky AM, Konety BR, Vivas CA, **Dhir R**, Becich MJ, Trump DL, Kuller LH. Positive

Predictive Value of Prostate Specific Antigen (> 4 ng/ml) and Abnormal Digital Rectal Exam for Prostate Cancer on the Caribbean Island of Tobago. 45th Caribbean Health Research Council meeting, April 20-22, 2000, Trinidad, Tobago. *W Ind Med J*, 16 2000;49;(suppl 2:35 (abstract).

29. Jenkins FJ, Bunker CH, Patrick AL, **Dhir R**, Trump DL, Becich MJ. Evidence for association of human herpes virus 8 (HHV-8) with risk for prostate cancer. *J Urol*. 165:63-64, 2001. (abstract)
30. Bastacky S, Cieply K, Jukic D, **Dhir R**, Becich MJ. The Frequency of Cmyc HER-2/neu and Chromosome 7q31 (D7S486) Amplification by Fluorescence In-Situ Hybridization (FISH) in Benign and Malignant Acinar Cells in Prostatic Adenocarcinoma (PrCa). USCAP annual meeting, Atlanta, (3/01, poster). *Modern Pathology* 14:102A, 2001.
31. Pound CR, Patel A, **Dhir R**, Bastacky S, Mu XC, Becich MJ, Nelson JB. Preservation of the Neurovascular Bundles (NVB) at Radical Prostatectomy (RRP) in Men with Biopsy Perineural Invasion (PNI), American Presented at the Urological Association Meeting, Anaheim, CA, 2001.
32. Kakehi Y, Kulkarni P, **Dhir R**, Pirozzi G, Munger W, and Getzenberg RH. Molecular Differentiation of Histologic and Symptomatic BPH. Presented at the American Urological Association Meeting, Anaheim, CA, 2001.
33. Shah US, **Dhir R**, and Getzenberg RH. Characterization of a Novel Protein, JM27, in Prostate Cancer Cell Lines. Presented at the American Association for Cancer Research, Naples, FL, 2001.
34. Prakash K, Pirozzi G, Elashoff M, Munger W, Waga I, Kanagawa Y, **Dhir R**, Kakehi Y, and Getzenberg RH. Differentiation Symptomatic and Asymptomatic BPH: JM-27. Presented at the American Association for Cancer Research, Orlando, FL, 2002.
35. Prakash K, Pirozzi G, Elashoff M, Munger W, Waga I, Kanagawa Y, **Dhir R**, Kakehi Y, and Getzenberg RH. Genetic Similarity of BPH from Individuals with Symptoms and Those with Prostate Cancer. Presented at the American Association for Cancer Research, Orlando, FL, 2002.
36. Kulkarni P, Pirozzi G, Elashoff M, Waga I, Munger W, **Dhir R**, Kakehi Y, and Getzenberg RH. Genetic Similarity of BPH from Individuals with Symptoms and Those with Prostate Cancer. Presented at the American Urological Association, Annual Meeting. Orlando, Florida, 2002.
37. Kulkarni P, Pirozzi G, Elashoff M, Waga I, Munger W, **Dhir R**, Kakehi Y, and Getzenberg RH. Differentiating Symptomatic and Asymptomatic BPH: JM-27. Presented at the American Urological Association, Annual Meeting. Orlando, Florida, 2002.
38. Vietmeier BN, Arlotti JA, Acquafondata MB, **Dhir R**, Masterson R, and Getzenberg RH. Early Identification of Individuals with Prostate Cancer in "Negative Biopsies". Presented at the Society for Basic Urologic Research Fall Symposium, Tucson, Arizona, 2002.
39. **Dhir R**, Parwani AV, Acquafondata M, Finn OJ, and Chatta G. MUC1 Expression in acinar Prostatic Adenocarcinomas. Poster at the USCAP Annual Meeting, 2005.
40. **Dhir R**, Storkus W, Acquafondata M, Whiteside T, and Parwani AV. Increased Expression of EphA2 Tyrosine Kinase in Metastatic Prostate Cancer. Poster at the USCAP Annual Meeting, 2005.
41. Hari RN, Ferrone S, Acquafondata M, Notaro M, Whiteside T, and **Dhir R**. Evaluation of immunohistochemical expression of NO-1, as a marker for neoplastic transformation in the prostate. Poster at the USCAP Annual Meeting, 2005.
42. **Dhir R**, Datta MW, Melamed J, Becich MJ, Bosland MC, Kajdacsy-Balla AA, Oreinstein J, Silver S and Berman J. Changes in Tumor and HGPIN Characteristics in Radical Prostatectomy Specimens from 1990 to 2004

results from the NCI Cooperative Prostate Cancer Tissue Resource. Poster at the USCAP Annual Meeting, 2005.

43. Yin M, Bastacky S, Acquafondata M, McHale T, **Dhir D**. Evaluation of p16INK immunohistochemical expression as a marker for neoplastic transformation in the urinary bladder. Poster at the USCAP Annual Meeting, 2005.
44. Catroppo JF, Datta W, Kajdacsy-Balla AA, Monzon-Bordonaba FA, **Dhir R**, Parwani A. Immunohistochemical Expression of Alpha-Methyl-CoA Racemase (AMACR) in Ductal Adenocarcinoma of the Prostate. Poster at the USCAP Annual Meeting, 2005.
45. Gologan A, Acquafondata M, **Dhir R**, Sepulveda AR. Patterns of Expression of PIGR in Pre-Neoplastic Mucosa and Adenocarcinomas of the Upper Gastrointestinal Tract. Poster at the USCAP Annual Meeting, 2005.
46. Dvorakova M, **Dhir R**, Monzon FA, Bastacky SI, Cieply KM, Shere CR, Mercuri TL, Parwani AV. Renal Oncocytoma: A Comparative Clinicopathologic Study and Fluorescent In-Situ Hybridization Analysis of 44 Cases with Long-Term Follow-up. Poster at the USCAP Annual Meeting, 2005.
47. Dvorakova M, **Dhir R**, Monzon FA, Bastacky SI, Cieply KM, Acquafondata MB, Fuhrer KA, Parwani AV. The Use of Fluorescent In-Situ Hybridization and Immunohistochemistry to Differentiate Chromophobe Renal Cell Carcinoma from Renal Oncocytoma. Poster at the USCAP Annual Meeting, 2007.
48. Hagenkord JM, Lyons-Weiler M, **Dhir R**, Parwani A, Monzon FA. Loss-of-Heterozygosity and Chromosome Copy Number Analysis in Paraffin Embedded Tissues Using Whole Genome SNP Arrays. Poster at the USCAP Annual Meeting, 2007.
49. Recavarren R, Mohanty S, Bastacky S, Monzon F, **Dhir R**, Parwani AV. Double Immunohistochemistry for CK20/P53 in the Diagnosis of Neoplastic and Non-Neoplastic Bladder Biopsies. Poster at the USCAP Annual Meeting, 2007.
50. Parwani AV, Vrbin C, Raab S, **Dhir R**. Prospective Peer Review of Diagnostic Prostate Biopsies as a Tool for Error Reduction in a Sub-Specialty Based Practice. Poster at the USCAP Annual Meeting, 2007.
51. Mohanty SK, Patel AA, Taioli E, Milliken E, Kim P, Nancy WB, Parwani AV, **Dhir R**, Becich MJ. Convergence of College of American Pathologists (CAP) Protocol Model and North American Association of Central Cancer Registry (NAACCR) Elements for the Development and Deployment of Common Data Elements: An Emerging Standard for Mesothelioma Virtual Biorepository. Poster at the USCAP Annual Meeting, 2007.
52. Balassanian R, **Dhir R**, Vrbin C, Raab SS, Parwani AV. Utility of UroVysion Testing in the Setting of Atypical Urine Cytology. Poster at the USCAP Annual Meeting, 2007.
53. **Dhir R**, Parwani AV, Balassanian R, Bastacky SI, Hrebinko R, Franks M, Cieply K, Vrbin C, Raab S. Poster at the USCAP Annual Meeting, 2007.
54. **Dhir R**, Parwani AV, Balassanian R, Hrebinko R, Franks M, Bastacky SI, Vrbin C, Raab S. Comparison of Urovysion™ Testing, Conventional Cytology and Surgical Biopsy in Evaluation for Recurrent Bladder Cancer. Poster at the USCAP Annual Meeting, 2007.
55. Yin M, Cieply K, Cumbie K, Bastacky S, **Dhir R**. Aberrations of Chromosome 9 Detected by Fluorescence In-Situ Immunohistochemical Expression. Poster at the USCAP Annual Meeting, 2007.
56. Parwani AV, Raab S, Mahood L, **Dhir R**. Retrospective peer Review of Diagnostic Bladder Biopsies: experience within a "Center of Excellence" Model. Poster at the USCAP Annual Meeting, 2007.
57. Angeles RM, Liang A, Acquafondata M, **Dhir R**. Expression of HLA-Related Antigens TAP-2 and HB2 in



Prostatic Disease: An Immunohistochemical Study Using Tissue Microarrays (TMA). Poster at the USCAP Annual Meeting, 2007.

58. Yin M, **Dhir R**, Parwani AV. Diagnostic Utility of P501s (Prostein) in Comparison to Prostatic Specific Antigen (PSA) for the Detection of Metastatic Prostatic Adenocarcinoma. Poster at the USCAP Annual Meeting, 2007.
59. Liang AF, Acquafondata MB, Angeles RM, **Dhir R**. MHC Class II Immune Response and Prostate Adenocarcinoma. Poster at the USCAP Annual Meeting, 2007.
60. Bastacky A, Perepletchikov A, Parwani A, Yin, Cai G, **Dhir R**. Clinicopathologic Features of Hematolymphoid Neoplasms (HLN) Involving the Prostate in Surgical Pathology specimens at The University of Pittsburgh. USCAP Annual Meeting, Denver, Colorado, 2008.
61. Cimbaluk D, Bastacky S, **Dhir R**, Acquafondata M, Parwani AV. Utility of a Combined Triple Immunohistochemical Stain Using CD44/CK20/p53 in the diagnosis of Neoplastic and Non-Neoplastic Bladder Biopsies. USCAP Annual Meeting, Denver, Colorado, 2008.
62. Liang AF, Chivukula M, Parwani AV, Acquafondata MB, **Dhir R**. Immunohistochemical (IHC) Panel for Subtype Classification of Renal Neoplasms. USCAP Annual Meeting, Denver, Colorado, 2008.
63. Monzon FA, Hagenkord J, Lyons-Weiler M, Sciulli CM, Chandran U, Lisovitch A, **Dhir R**, Gonzalez-Berjon JM, Parwani AV. Improving diagnosis of Renal Cell Carcinoma through Chromosome Copy Number Analysis with SNP Arrays. USCAP Annual Meeting, Denver, Colorado, 2008.
64. Perepletchikov A, **Dhir R**, Parwani AV, Cai G, Bastacky S. Margin assessment of the Radical Prostatectomy (RP) Utilizing a Sectioning Method That Optimizes Margin Evaluation and Permits Tissue Banking. USCAP Annual Meeting, Denver, Colorado, 2008.
65. Perepletchikov A, Parwani AV, **Dhir R**, Cai G, Yin M, Bastacky S. The Incidence of Lymphoma in Pelvic Lymph Nodes (PLNs) in Patients Undergoing Radical Prostatectomy (RP). USCAP Annual Meeting, Denver, Colorado, 2008.
66. Zarandona M, Cieply K, **Dhir R**, Parwani A, Cumbie K, Sherer C, Salvatore J, Gandhi M, Dacic S, Nikiforov YE, Bastacky S. USCAP Annual Meeting, Denver, Colorado, 2008.
67. Amin W, Mohant SK, Parwani AV, **Dhir R**, Becich MJ. Tissue Banking Informatics: Experience from a Multi-Institutional Academic. USCAP Annual Meeting, Denver, Colorado, 2008.
68. Mohant SK, Mistry AT, Crowley RS, Watson M, Nagarajan R, Amin W, Parwani Av, Pople AK, Schmandt L, **Dhir R**, Becich MJ. Tissue Banking and Pathology Tool work space of Cancer Biomedical Informatics Grid – A Model-Driven and Standard Based Informatics Framework To Expedite Translational Research. USCAP Annual Meeting, Denver, Colorado, 2008.
69. **R Dhir**, AV Parwani, DL Zynger. Impact of Bladder Biopsy Second Review on Pathological Stage and Subsequent Patient Management. USCAP Annual Meeting, Boston MA, 2009.
70. DL Zynger, WA LaFramboise, JM Krill-Burger, CM Sciulli, AM Hensler, A Perepletchikov, LP Kiss, **R Dhir**, G Cai, AV Parwani, SI Bastacky. MicroRNA Expression Profiling Distinguishes Conventional and Chromophobe Renal Cell Carcinomas from Normal Renal Parenchyma. USCAP Annual Meeting, Boston MA, 2009.
71. DL Zynger, MB Acquafondata, **R Dhir**, SI Bastacky, AV Parwani. Utility of Immunohistochemical Markers to Confirm the Presence of Vas Deferens in Vasectomy Specimens. USCAP Annual Meeting, Boston MA, 2009.
72. M Youschak, K Cieply, C Sherer, K Cumbie, J Salvatore, D Zynger, A Parwani, R Dhir, L Kiss and S Bastacky.

UroVysion™ (UroV) " False Positives ": True False Positives or Anticipatory True Positives? The University of Pittsburgh Experience. USCAP Annual Meeting, Boston MA, 2009.

73. LA Niemeier, K Cieply, **R Dhir**, AV Parwani, K Cumbie, C Sherer, J Salvatore, M Vouchak, L Kiss, G Cai, A Perepletchikov, and SI Bastacky. Fluorescence In Situ Hybridization (FISH) Assay for *ERG* Gene Disruption in Acinar (PCA-A) and Ductal (PCA-D) Subtypes of Prostatic Adenocarcinoma. USCAP Annual Meeting, Boston MA, 2009.

## PROFESSIONAL ACTIVITIES

### TEACHING

#### Medical Student and Related Professions Teaching

- 1998-Present Host Defenses Course, PMSI, Cancer Biology Labs and Lecture, University of Pittsburgh School of Medicine  
1998-2002 Renal Diseases Course, University of Pittsburgh School of Medicine  
1998-Present Genitourinary Pathology Course, 4<sup>th</sup> year medical students, University of Pittsburgh School of Medicine  
2008 Reproductive and Developmental Biology – Prostate and Testes – MS2 class of the University of Pittsburgh School of Medicine  
2007 Reproductive and Developmental Biology – Male Reproductive Lecture, Lab and Review – MS2 class of the University of Pittsburgh School of Medicine  
2006-08 CLRES 2710 Translational Research Tools: How to Navigate Between the Bench and the Bedside – Research using Human Tissue

#### Resident/Fellow Teaching

- 2002-Present Genitourinary Pathology Fellowship Director, University of Pittsburgh School of Medicine  
2002-Present Genitourinary Pathology Resident Orientation and Teaching  
1998-Present Genitourinary Pathology Fellowship, University of Pittsburgh School of Medicine  
1998-Present Genitourinary Pathology Resident Teaching  
1998-Present Genitourinary Pathology Teaching for Urology Residents

#### Graduate School Teaching

- 2003-Present Molecular tools for research.

#### Post-Graduate Medical Teaching

- 2003-Present Surgical Pathology Journal Club, University of Pittsburgh School of Medicine  
1998-Present Diagnostic Pathology Unknown Conference: Discussion of difficult cases and case studies, University of Pittsburgh School of Medicine.  
1998-Present General Surgical Pathology Noon Conference, University of Pittsburgh School of Medicine  
1998-Present Genitourinary Pathology Conference and Tumor Board, Departments of Pathology, Urology and Oncology, University of Pittsburgh School of Medicine.  
1998-Present Autopsy Conference and Gross Organ conference, Department of Pathology, University of Pittsburgh School of Medicine

### RESEARCH GRANT FUNDING (Current: Bolded as PI)

R01 DK088793-02 (Wang)	9/15/2010 –7/31/2014	0.60
NIH	\$12,894	
Androgen signaling in benign prostatic hyperplasia (BPH)		

P30CA047904-23 (Davidson) NIH Cancer Center Support Grant	9/10/2010 –7/31/2015 \$91,105	0.36
R01CA157467-02 (Zarour) NIH Reversing melanoma-induced T cell dysfunction	4/01/2011 –3/31/2016 \$3,675	0.12
P50 CA090440-11,CR (Siegfried) NIH SPORE in Lung Cancer	6/01/2001 - 6/30/2015 \$80,732	1.20
U19 OH009077-06,CR (Becich) CDC National Mesothelioma Virtual Bank for Translational Research	9/01/2006 – 8/31/2016 \$32,873	0.24
R01 AI090659 (Maskiewicz) Loma Linda University/NIH Molecular and Cellular Determinants of Disease Heterogeneity in COPD	6/15/2010 – 5/31/2014 \$1,720	0.12
U19 AI082639-02 (Hillier) NIH Alternative Formulations of Tenofovir and UC781	6/15/2010-5/31/2015 \$3,327	0.12
U19 AI082637-03 (McGowan) NIH Combination HIV Antiretroviral Rectal Microbicide Program	9/23/2009-08/31/2014 \$3,959	0.12
HHSN268001100019C (Sciurba) NIH Lung Tissue Research Consortium	1/03/2011-1/02/2016 \$42,388	0.60
<b>HHSN261201000058C</b> NCI <b>The University of Pittsburgh Research Tissue, Data and Biological Specimen Accrual Network Supporting NCI's The Cancer Genome Atlas Project</b>	<b>9/29/2010-9/30/2014</b> <b>\$1,981,122</b>	<b>1.8</b>
<b>HHSN261201000003I</b> NCI <b>The Cancer Genome Atlas Project</b>	<b>1/25/2010-9/30/2014</b> <b>\$681,636</b>	<b>.60</b>
<b>HHSN261201000013I</b> NCI <b>The Cancer Genome Atlas Project</b>	<b>4/06/2010-9/30/2014</b> <b>\$166,243</b>	<b>.60</b>
<b>HHSN261201000014I</b> NCI <b>The Cancer Genome Atlas Project</b>	<b>1/25/2010-9/30/2014</b> <b>\$243,359</b>	<b>.60</b>
<b>caHUB BPV project</b> NCI	<b>1/25/2013-7/31/2014</b> <b>\$853,359</b>	<b>.60</b>

**RESEARCH GRANT FUNDING (Past)**

Research Title	Effort	Period
Physiology and Pathophysiology of the Primate Gonad Project 1 Principal Investigator: Plant, M.D. Agency: NIH The major goals of this project are to evaluate different mechanism involved in loss of fertility and identify mechanism to bypass some of these infertility causing mechanism especially in the cohort of patients undergoing chemotherapy/radiation therapy for malignancies/other disease.	5%	April 1, 2007 to March 31, 2011
SPORE in Lung Cancer Principal Investigator: Jill Siegfried, M.D. Agency: NIH The major goals of this project are: 1) Evaluate the incidence and possible etiologic factors involved in a potential increased risk of lung cancer in females. 2) Identify novel markers for lung cancer. 3) Develop screening methods for detection of lung cancer.	10%	June 1, 2006 to April 30, 2011
Immune Escape in Human Mechanism and Therapeutic Implication Principal Investigator: Theresa Whiteside, M.D. Agency: NIH The major goals of this project are to evaluate the role of immune pathways in the development and progression of malignancies. Identify novel markers and develop screening methods for diagnostic and prognostic assays related to the markers identified in difference cancers.	3.8%	September 30, 2006 to July 31, 2011
VEGI 192 as an anticancer Therapeutic Agent Principal Investigator: Luyuan Li, M.D. Agency: NIH The major goals of this project are to evaluate the role of VEGI 192 in kidney cancer and identify possible role of VEGI 192 as a chemotherapeutic agent in this malignancy.	4%	July 1, 2006 to May 31, 2011
Molecular and Cellular Determinants of Disease Heterogeneity COPD Project Principal Investigator: Frank Scirba, M.D.  Agency: NIH The major goals of this project are to evaluate the mechanisms involved in interstitial and obstructive lung disease. Identify novel markers and therapeutic targets related to the development and progression of these diseases.	5%	January 12, 2007 to December 31, 2011
Molecular Phenotypes within and across disease boundaries in IPF and COPD 1 R01 HL095397-01 Principal Investigator: Kaminski Agency: NIH	5%	September 24, 2008 to July 31, 2012
Clot Formation in the Tumor Stroma as a Target for Prostate Cancer Treatment 1 R01 CA134330-01 Principal Investigator: Pilch, M.D. Agency: NIH	2%	August 12, 2009 to May 31, 2012
Microbicide Trials Network Principal Investigator: Dezzutti, M.D. Agency: NIH The major goals of this project are to evaluate the role of different microbicides in preventing sexually transmitted diseases and to identify and collect a suitable cohort of	1%	June 1, 2008 to May 31, 2013

samples for these studies.		
Characterization of Male Germline Stem Cells in Rhesus Model of Infertility 1 R01 HD055475-01A2 Principal Investigator: Orwig, M.D. Agency: NIH	1%	September 15, 2008 to June 30, 2013
Breast Cancer Prevention by Dietary Phytochemicals 1 R01 CA 129347-01 Principal Investigator: R. Dhir, M.D. Agency: NIH The major goals of this project are to evaluate the responsibility for histopathological analysis for in-vivo studies and identify and collect a suitable cohort of samples for these studies.	3%	April 1, 2008 to March 31, 2013
Anticarcinogenic Effect of ITCS Against Prostate Cancer 1 R01 CA101753-6 Principal Investigator: Singh, M.D. Agency: NIH	3%	December 1, 2008 to January 30, 2013
Optimization of Melanoma Vaccine with T Helper Epitope 2 R01 CA090360A2 Principal Investigator: Zarour, M.D. Agency: NIH	1%	March 1, 2009 to February 28, 2014
The Cancer Genome Atlas Project. Principal Investigator: R. Dhir, M.D. Agency: NCI. The major goals of this project are the molecular profiling of major tumor types. The profiling is done by sub-contractors engaged by the NCI. All data generated is provided back to the Institution for research usage. We are participating in the prospective accrual of major malignancies (lung, breast, renal, ovarian, endometrial neoplasms etc). Total funding: \$2,000,000	10%	May 1 <sup>st</sup> 2009 to Apr. 30 <sup>th</sup> 2014
<b>Previous Research Support</b>		
Role of EAF Family Proteins in Prostate Carcinogenesis Principal Investigator: Wang, M.D. The major goals of this project are to evaluate the mechanism of action of the EAF family of proteins in prostate cancer and identify any role of this family of proteins as a diagnostic or prognostic marker for prostate cancer.	4%	April 1, 2007 to January 31, 2011
<i>Mesothelioma Virtual Bank for Translational Research</i> U19OH009077 03 Principal Investigator: Michael Becich, M.D. Agency: NIH	2%	September 1, 2006 to August 31, 2010
"Molecular Epidemiology of Prostate Cancer in Tobogonians" Principal Investigator: Bunker, M.D. Agency: NIH The major goal of this project is to identify molecular characteristics of this population group, a high-risk cohort for the development of prostate carcinoma.	2%	Sept. 30, 2005 to May 31, 2010
Prostate Cancer Prevention by Diallyl Trisulfide 5 R01 CA113363-05	4%	March 1, 2009 to February 28, 2010

Principal Investigator: Singh, M.D. Agency: NIH		
Lung Tissue Research Consortium Clinical Center RFP HR 04 08 Principal Investigator: Frank Scirba, M.D. No Cost extension at this time The major goals of this project are to evaluate the mechanism involved in interstitial and obstructive lung disease and identify novel markers related to outcomes in this disease.	4%	January 30, 2004 to February 29, 2010
The Cancer Genome Atlas Project. Principal Investigator: R. Dhir, M.D. Agency: NCI. The major goals of this project are the molecular profiling of major tumor types. The profiling is done by sub-contractors engaged by the NCI. All data generated is provided back to the Institution for research usage. This specific sub-contract is for Squamous cell carcinomas of the lung. Total funding: \$1, 200,000	5%	Nov. 1 <sup>st</sup> 2008 to Oct. 31 <sup>st</sup> 2010
The Cancer Genome Atlas Project. Principal Investigator: R. Dhir, M.D. Agency: NCI. The major goals of this project are the molecular profiling of major tumor types. The profiling is done by sub-contractors engaged by the NCI. All data generated is provided back to the Institution for research usage. This specific sub-contract is for Adenocarcinomas of the lung. Total funding: \$1, 800,000	5%	Nov. 1 <sup>st</sup> 2008 to Oct. 31 <sup>st</sup> 2010
Prevensio Inc. Principal Investigator: R. Dhir, M.D. Agency: Corporate SRA Patients present with similar symptoms of cardiac distress but due to different underlying cardiac disease mechanisms The major goals of this project are to develop serum-based clinical assays that would be of help as a point of care tool for use in the emergency room, cardiology laboratory and physician's office. Total funding: \$50,000	2%	January 1, 2009 to December 31 <sup>st</sup> 2009
Pathworks Diagnostics Principal Investigator: R. Dhir, M.D. Agency: Corporate SRA The major goals of this project are to determine the accuracy of the Pathwork™ TOO test when using FFPE specimens and measure the concordance of Pathwork™ Tissue of Origin Test results when the test utilizes either frozen or FFPE human tumor specimens. Total funding: \$150,000	5%	November 1, 2008 to October 1, 2009
"Serum Proteomic Biomarkers for Colon and Pancreatic Cancer" Principal Investigator: William Bigbee, M.D. Agency: NIH The major goal of this project is to identify novel biomarkers in colon and pancreatic cancer. The Tissue resource will serve as the repository aggregating biological materials and annotating data.	1%	Sept. 30, 2004 to August 31, 2009
"Cancer Center Support Grant for the UPCI Comprehensive Cancer Center" Principal Investigator: Ronald Herberman, M.D. Agency: NIH	3%	August 1, 2004 to July 31, 2009

<p>The major goal of this project is to serve as a local core facility to provide tissue and other biological specimens and research Pathology services to the University of Pittsburgh Cancer Institute investigators.</p>		
<p>“Gynecologic Disease Program”          Principal Investigator: Michael Becich, M.D.          Agency: DOD          The major goals of this project are to evaluate mechanism in gynecologic malignancies. Also to identify novel diagnostic and prognostic markers for gynecologic malignancies.</p>	5%	November 1, 2004 to November 30, 2008
<p>“Lung Tissue Research Consortium (LTRC)”          Principal Investigator: Frank Scirba, M.D.          Agency: NIH          The major goal of this project is to aggregate tissue and biological specimens from patients with non-neoplastic chronic lung diseases. These consented patients undergo extensive pulmonary function testing.</p>	5%	November 1, 2004 to January 29, 2007
<p>“Vaccine Development of Oral Carcinoma”          Principal Investigator: Theresa Whiteside, M.D.          Agency: NIH          The major goals of this project are: 1) Identify mechanisms to develop vaccines against oral carcinoma. 2) Identify patterns of expression of novel and conventional markers in oral carcinoma.</p>	5%	Sept. 1, 1997 to August 31, 2007
<p>“A Shared Tissue Resource for the Molecular Classification of Prostate Cancer”          Principal Investigator: Michael Becich, M.D.          Agency: NIH          Type: N/A          The major goals of this project are: 1) to expand the Western Pennsylvania Genitourinary Tissue Bank in order to provide a national resource and provide large numbers of paraffin and frozen tissues from normal, organ-confined and metastatic prostate specimens from biopsies, prostatectomies and autopsies from patients in the Pittsburgh area.</p>	10%	April 1, 2000 to March 31, 2007
<p>“Molecular Reclassification of Prostate Cancer”          Principal Investigator: George Michalopoulos, M.D. Ph.D.          Agency: NIH Type: N/A,          The major goals of this project are: 1) to analyze gene expression patterns in cancer of the prostate, 2) to establish correlations with distinct groups of cancer behavior.</p>	10%	July 1, 2000 to June 30, 2005
<p>“MTOPS Biomarker Unit at the University of Pittsburgh”          Principal Investigator: Robert H. Getzenberg, Ph.D.          Agency: NIH Type: UO1 K063593          This hypothesis will be addressed by conducting the following specific aims: 1) to analyze the expression of JM-27, BMP-5 (list other markers) as well as other markers in biopsy samples obtained from the MTOPS trial as well as normal and BPH (symptomatic and asymptomatic) tissues in our bank and to correlate the above-described markers with both response to therapy and symptom progression ; 2) to develop serum-based methodologies for testing the expression of the above-described markers in patient samples obtained from the MTOPS trial as well as from normal and BPH (symptomatic and asymptomatic) individuals from our Institution; and 3) to further develop a system by which other markers developed and prioritized by the MTOPS Consortium can be analyzed. As a component of the MTOPS Consortium, these studies should provide the development of novel biomarkers with utility in diagnosing and characterizing BPH.</p>	15%	October 1, 2002 to September 30, 2005

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## SEMINARS AND INVITED LECTURESHIPS RELATED TO RESEARCH

1. Chair, Symposium on Data Annotation and Inventory Management. International Leaders of Biobanking. Toronto, Canada. July 2015.
2. Chair, Symposium on Tissue Banking. American Society for Investigative Pathology, Experimental Biology 2010, Anaheim, CA. April 2010.
3. Chair, Symposium on "Innovations in Biobanking Informatics". ISBER Annual Meeting 2009 in Portland, OR. May 2009.
4. "Molecular Pathology for the Practicing Pathologist: GU malignancies". ASCP Annual Meeting, Baltimore, MD, October 2008.
5. "Prostate Research Using Prostate Bank". Korean Society of Urological Research (KSUR), Seoul, Korea, April 2008.
6. "Molecular Pathology for the Practicing Pathologist: UroVysion FISH testing for Urothelial carcinoma". ASCP Annual Meeting, New Orleans, October 2007.
7. "A multi-disciplinary approach to honest broker services: a novel model": ISBER Annual Meeting 2007 in Singapore, June 1st, 2007.
8. "Collaborative Tissue Banking": Workshop organized at the ISBER Annual Meeting 2007 in Singapore, May 31st, 2007.
9. "Molecular Pathology for the Practicing Pathologist: UroVysion FISH testing for Urothelial carcinoma". ASCP Annual Meeting, Las Vegas, October 19th 2006.
10. Honest broker Tools and Tissue Banking. The PA Chapter of the Association of Cancer Registrars, Sept 2006.
11. "Tissue Banking and HIPAA". The Advancing Practice, Instruction and Innovation through Informatics conference (APIII 2005), August 20th, 2006.
12. "Tissue Banking and HIPAA": The Advancing Practice, Instruction and Innovation through Informatics conference (APIII 2005), August 24th, 2005.
13. "Tissue Banking and Informatics": Workshop organized at the ISBER Annual Meeting 2005 in Seattle, WA, May 2nd 2005.
14. "Cooperative Prostate Cancer Tissue Resource": Presentation at the break out session on NCI Cooperative Tissue and Biological specimen resources. ISBER Annual Meeting 2005 in Seattle, WA, May 3rd 2005.
15. "Tissue Banking and HIPAA": The Advancing Practice, Instruction and Innovation through Informatics conference (APIII 2005), August 24th, 2005.
16. "Tissue Banking and Informatics": Workshop organized at the ISBER Annual Meeting 2005 in Seattle, WA, May 2nd 2005.
17. "Cooperative Prostate Cancer Tissue Resource": Presentation at the break out session on NCI Cooperative Tissue and Biological specimen resources. ISBER Annual Meeting 2005 in Seattle, WA, May 3rd 2005.



18. "Tissue Banking: Scientific and administrative issues". Invited speaker; Moffitt Cancer Center, Tampa, FL, Sept. 2005.
19. A novel model for Honest broker activities: The University of Pittsburgh experience". International Society for Biological and Environmental Repositories, Perugia, Italy, October 19th, 2004.
20. "Tissue Banks and Pathology Tools and Clinical Trials in caBIG. Honest Broker Services: Optimizing Research Information Services Through Creative Expansion of the Cancer Registry". The Advancing Practice, Instruction and Innovation through Informatics conference. APIII 2004, October 7th, 2004.
21. "Setting up a Tissue Bank". Invited speaker Georgia Cancer Coalition, November 8th 2003. The GCC is devising a state wide tissue banking system using Tobacco settlement derived resources.
22. The companion meeting of the Society for Basic Urologic Research at the Annual meeting of the American Urologic Association at Orlando, FL. "The Co-operative Prostate Cancer Tissue Resource". May 25th 2002.
23. Tissue MicroArray QA/QC: Be aware of these potential pitfalls. Advancing Pathology Informatics, Imaging, and the Internet conference (APIII 2001). October 4th-6th, 2001.
24. Tissue Microarray Data Exchange Standards Workshop. Presenter and moderator of QA/QC standards session. Advancing Pathology Informatics, Imaging, and the Internet conference (APIII 2001). October 4th-6th, 2001.
25. The University of Wisconsin at Milwaukee. "Tissue Banking: A multi-disciplinary endeavor". Sept. 18th 2001.
26. The University of West Virginia at Morgantown. "The scientific and administrative facets of Tissue Banking". August 20th 2000.

## **OTHER RESEARCH RELATED ACTIVITIES**

### **Journal Refereeing**

2006-present American Journal of Surgical Pathology, Urology, Neoplasia and Oncogene  
2001-present Urology  
2001-present Oncogene

### **Study Section Memberships**

2009 Invited to be the chair for the review session for the Department of Defense (DOD) Congressionally Directed Medical Research Programs Prostate Cancer Research Program (PCRP) for the Prostate Cancer Pathology Resource Network Award-Pathology Resource.  
2008 SBIR/STTR programs for innovative specimen preparation  
2008 Innovative Molecular Analysis Technologies Program (IMAT) programs for innovative specimen preparation  
2008 Reviewer for the AIDS malignancy resource U01 consortium  
2006 Dana Farber Cancer Center Support grant review  
2004 NCI review for RFA titled "Support for Human Specimen in NCI-Supported Clinical Trials".  
2003-2008 Department of Defense, U.S. Army Medical Research and Material Command Prostate Cancer Research Program (PCRP).  
2002 Veteran Affairs Research Projects Review committee.

## **CURRENT RESEARCH INTERESTS**

1. Prostate tumor cell biology.
2. Human tissue banking.

3. Clinical and translational aspects of genitourinary neoplasms, with special interest in renal, urothelial and testicular neoplasms.

### **University Research Related Responsibilities**

1. Project Core leader of the Tissue banking Core for the NCI funded grant titled "The Molecular classification of Prostate Cancer" (April 2000- present).
2. Co-Principal Investigator for the funded proposal for the creation of a Co-operative Prostate Cancer Tissue Resource (August 2000- present).
3. Project Core leader of the Tissue and Blood banking Core for the Lung SPORE (Specialized Program Of Research Excellence) (July 2001- present).
4. Project Core leader of the Tissue banking Core for the Program Project for Spinal Cord Injury and Bladder diseases (Sept. 2001- present).
5. Tissue and Pathology core leader for the funded Congressional research in the areas of endometrial and ovarian malignancies (March 2004- present).
6. Project Core leader of the Tissue and Research Pathology Services Core facility for the University of Pittsburgh Cancer Center Support Grant (March 2004- present).
7. Tissue core leader for the Lung Tissue Research Consortium (April 2004- present).

## **SERVICE**

### **Extra-institutional responsibilities**

#### **Committee assignments**

1. Co-Chair, Working group of the International Society for Biological and Environmental Repositories "Rights to and Control of Human Tissue Samples". May 2008-present.
2. Founding member, Marble Arch Working Groups on International Biobanking. The Marble Arch Working Groups on International Biobanking was created in December 2005 (inaugural meeting in London) to harmonize approaches in regional and national Biobanks. It is a forum for the exchange of information, ideas and expertise. There are 3 US representatives (Pittsburgh/NCI/Alabama).
3. Member, Program committee, International Society for Biological and Environmental Repositories. May 2006-2011.
4. Member, Marketing committee, International Society for Biological and Environmental Repositories. May 2004-2006.
5. Chairperson, Marketing Committee, Co-operative Prostate Cancer Tissue Resource (July 2003- present).
6. Member of the Task Force set up by the International Society of Biological and Environmental Repositories for accreditation of Tissue Banks (July 2002- 2006).

#### **Advisory assignments**

1. Invited consultant for the Cancer Human Biobank (caHUB) initiative of the National Cancer Institute, Sept. 2009.
2. Member, Bioinformatics Advisory Group, AIDS and Cancer Specimen Resource (ACSR) of the NCI.
3. Advisor, National University of Singapore. Initiative to establish a Tissue Banking program.
4. Advisor, Catholic University of Korea, Seoul, South Korea. Initiative to establish a GU Tissue Banking

program.

5. Advisor, Ullevaal University Hospital, Oslo, Norway. Initiative to establish a Tissue Banking program.
6. Advisor, Biobank Ireland Trust, Dublin, Ireland. Initiative to establish a Tissue Banking program.
7. Advisor, Hadassah University Hospital, Jerusalem, Israel. Initiative to establish a Tissue Banking program.
8. Advisor, Reliance Biotechnology Inc., Mumbai, India. Initiative to establish a Tissue Banking program.
9. Advisor, Biorepository of the Fred Hutchinson Cancer Research Center. Role is to help establish pricing structure based on University of Pittsburgh experience and data collected as part of the Marble Arch consortium.
10. Advisor, State of Georgia. Initiative to establish a state-wide Tissue Banking program with money derived from the Tobacco settlement.
11. Advisor, Maine Institute for Human Genetics and Health. Initiative to establish an institutional Tissue Banking program.
12. Advisor, Moffitt Cancer Center, Tampa, FL. Initiative to establish state-wide Tissue Banking program.
13. Advisor, University of Wisconsin at Madison. Initiative to establish an institutional Tissue Banking program.
14. Advisor, Medical University of South Carolina, Charleston SC. Initiative to establish an institutional Tissue Banking program.
15. Advisor, Helen F Graham Cancer Center, Newark, DE. Initiative to establish an institutional Tissue Banking program.

### Departmental Committees

1999-present Member, Department of Pathology IRB committee.  
 April 2013-present: Member, Promotions Committee, Dept. of Pathology, Univ. of Pittsburgh.

### Hospital/University Committees

2003-Present- Health Sciences Tissue Bank Oversight Committee.  
 2003-Present- Pulmonary diseases Tissue Utilization Committee.  
 2003-Present- Women's Diseases Tissue Utilization Committee.  
 2002-Present- Genitourinary Diseases Tissue Utilization Committee.  
 2007-Present- GME Committee.  
 2007-Present- Medical Executive Committee, Shadyside Hospital.  
 2007-Present- Credentials Committee, Shadyside Hospital.  
 2007-Present- Shadyside Academic Leadership Committee (SALC), Shadyside Hospital.  
 2007-Present- Bylaws Committee, Shadyside Hospital.  
 2007-Present- Pathologist Investigator Residency Training Program Committee (PIRT)  
 2007-Present- Lab Steering Committee  
 2007-Present- UPP Finance Committee

### Community Activities

#### Hospital Appointments

Practicing privileges at UPMC Shadyside, UPMC Presbyterian, UPMC St. Margaret's and UPMC Horizon.

#### Local Organizations

1994-Present Member, Pittsburgh Pathology Society

### TRAINEES

Trainees	Training Dates	Publications		Awards	Current Position
		Papers	Abstracts		
Fellows Qu, Hong	07/02-06/03	0	2		Staff Pathologist, Temple University Hospitals, Philadelphia.
Adrian Gologan	07/03-06/04	1	6		Staff Pathologist, McGill University, Montreal,

Name	Period	0	2	4	5	6	7	8	9	10	11	12	13	14	Present
James Catraoppo	07/04-06/05	0	2												
Jyoti Balani	07/05-06/06	1	4												
Ming Yin	07/06-06/07	17	46												
A. Perepletchikov	07/07-06/08	17													
Debra Zynger	07/08-06/09	5	11												
Alicia Liang	07/09-6/10		3												
Amber Hughes	07/10-6/11	6	1												
Franto Francis	07/11-6/12	1	3												
Milon Amin	07/12-6/13	2	4												
Somak Roy	07/13-6/14	3	5												
Gabriela Quiroga-garza,	07/14-Present	0	4												

**Awards won by mentored trainees**

1. Hong Qu, 2003. Best abstract award from the International Society of Urologic Pathology; presented at the Annual meeting of the US and Canadian Academy of Pathology.
2. Debra Zynger, 2009. Best abstract award (one of three awarded) from the International Society of Urologic Pathology; presented at the Annual meeting of the US and Canadian Academy of Pathology.
3. Debra Zynger, 2009. Certificate of Merit (one of four awarded) for the Stowell-Orbison Awards; presented at the Annual meeting of the US and Canadian Academy of Pathology.
4. Debra Zynger, 2009. Surgical Pathology Award (one of one awarded) from the Association of Directors of Anatomic and Surgical Pathology; presented at the Annual meeting of the US and Canadian Academy of Pathology.