UNIVERSITY OF IOWA HOSPITALS AND CLINICS

Curriculum Vitae

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Home Address: 6 Redtail Ct
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University of Iowa Hospitals & Clinics
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Iowa City, IA 52242

Education:

1984-88	B.S. Tri-State University (Biology/Chemistry), Angola, Indiana
1988-92	M.D. Indiana University Medical School, Indianapolis, Indiana

Postgraduate Training and Fellowship Appointments:

1992-93	Transitional Rotating Medical/Surgical Internship, Henry Ford Hospital, Detroit, Michigan
1993-94	Resident, Department of Radiation Oncology, University of Chicago, Chicago, Illinois
1994-97	Resident, Department of Radiation Oncology, William Beaumont Hospital, Royal Oak, Michigan

Military Service:

None

Faculty Appointments:

1997-2001	Lecturer A, Department of Radiation Oncology, University of Pennsylvania
6/2001-2007	Assistant Professor, Department of Radiation Oncology, University of Pennsylvania
2007-present	Assistant Professor, Department of Radiation Oncology, University of Iowa

Hospital and Administrative Appointments:

1998-	Radiation Oncologist, Radiology Service, Veterans' Medical Center
1998-	Staff Physician, Radiation Oncology, Pennsylvania Hospital

1999- Attending, Radiation Oncology, The Hospital of the University of Pennsylvania

1999- Consulting, Radiation Oncology, Presbyterian Medical Center

2000- Radiation Oncologist, Radiation Oncology, Chester County Hospital

2000- Courtesy, Radiation Oncology, Capital Health System at Mercer

2001- Courtesy, Department of Radiology, Rancocas Hospital

2001- Courtesy, Department of Radiation Oncology, Phoenixville Hospital

2002- Staff Physician, Radiation Oncology, Holy Redeemer Hospital

Specialty Certification:

1997 American Board of Therapeutic Radiology

Licensure:

Pennsylvania and New Jersey

Awards, Honors, and Membership in Honorary Societies:

1989 Marvella Bayh Memorial Scholarship awarded by Indiana University Medical School on the basis of research done while participating in the summer research program

1991 Wright Scholarship awarded by Indiana University Medical School on the basis of research done as a medical student

1999 AACR-Bristol-Myers Squibb Young Investigator Award. Given by AACR based on scoring of abstracts submitted

2000 ASTRO Basic Science Travel Award

Memberships in Professional and Scientific Societies:

National Societies:

American Society of Therapeutic Radiology and Oncology

American College of Radiology

American Society of Clinical Oncology

American Society for Cell Biology

American Medical Association

Radiological Society of North America

Local Societies:

None

Editorial Positions:

None

Academic Committees at the University of Pennsylvania and Affiliated Hospitals:

None

Major Teaching and Clinical Responsibilities at the University of Pennsylvania and Affiliated Hospitals:

2005 Mentored Medical Students on Ethics of Medicine.

Lectures by Invitation:

February 2002	NIH, Bethesda, Maryland Signaling Pathways Involved in H&N Cancer Radiation
July 2003	Workshop on Perspectives of Biological and Molecular Targeting in Radiation Oncology, Dresden, Germany Targeting the Ras Radiation Resistance Pathway
September 2005	4th Annual NCI-RRP/ROSP Young Investigator Workshop for Radiation Oncology Residents. NIH, Bethesda, Maryland. Modulating Radiation Resistance by inhibiting Akt.

Organizing Roles in Scientific Meetings:

October 2005	ASTRO Annual Meeting, Denver, CO. Moderator for Scientific Session N: Protection of Normal Tissues.

Bibliography:

Research Publications, peer reviewed:

Lee YJ, Galoforo SS, Berns CM, Erdos G, **Gupta AK**, Ways DK, and Corry PM: Effect of ionizing radiation on AP-1 binding activity and basis fibroblast growth factor gene expression in drug sensitive human breast carcinoma MCF-7 and multidrug-resistant MCF-7/ADR cells. Journal of Biological Chemistry 270: 28790-28796, 1995.

Gupta AK, Galoforo SS, Berns CM, Martinez AA, Corry PM, Guan KL, and Lee YJ: Elevated levels of ERK2 in human breast carcinoma cells transfected with protein kinase C. Cell Proliferation 29: 655-663, 1996.

Gupta AK, Lee YJ, Galoforo SS, Berns CM, Martinez AA, Corry PM, Wu XY, and Guan KL: Differential effect of glucose deprivation on MAPK activation in drug sensitive human breast carcinoma MCF-7 and multidrug resistant MCF-7/ADR cells. Molecular and Cellular Biochemistry 170: 23-30, 1997.

Liu X, **Gupta AK**, Corry PM, and Lee YJ: Hypoglycemia-induced c-Jun phosphorylation is mediated by c-Jun N-terminal kinase 1 and Lyn kinase in drug resistant human breast carcinoma MCF-7/ADR cells. Journal of Biological Chemistry 272: 11690-11693, 1997.

Gupta AK, Vicini FA, Frazier AJ, Barth-Jones DC, Edmundson GK, Mele E, Gustafson GS, and Martinez A: Iridium-192 transperineal interstitial brachytherapy for locally advanced or recurrent gynecological malignancies. International Journal of Radiation Oncology, Biology, and Physics 43: 1055-1060, 1999.

Gupta AK, Bernhard EJ, Bakanauskas VJ, Wu JM, Muschel RJ, and McKenna WG: Ras-mediated radiation resistance is not linked to MAPK activation. Radiation Research 154: 64-72, 2000.

Bernhard EJ, Stanbridge EJ, Gupta S, **Gupta AK**, Soto D, Bakanauskas VJ, Cerniglia GC, Muschel RJ, McKenna WG. Direct evidence for the contribution of activated N-ras and K-ras oncogenes to increased intrinsic radiation resistance in human tumor cell lines. Cancer Research 60: 6597-6600, 2000.

Gupta AK, Bernhard EJ, Bakanauskas VJ, Muschel RJ, McKenna WG. The ras radioresistance pathway. Cancer Research 61: 4278-4282, 2001.

Gupta AK, McKenna WG, Weber CN, Feldman MD, Goldsmith JD, Mick R, Machtay M, Rosenthal DI, Bakanauskas VJ, Cerniglia GJ, Bernhard EJ, Weber RS, Muschel RJ. Local recurrence in head and neck cancer: relationship to radiation resistance and signal transduction. Clinical Cancer Research 8: 885-892, 2002.

Gupta AK, Bernhard EJ, Bakanauskas VJ, Cerniglia GJ, Muschel RJ, McKenna WG. C-Raf-1 protein kinase is not essential for Ras transformation of mouse embryo fibroblasts. Cancer Biology and Therapy Vol 2 Issue 1: 146/1-146/3, 2003.

Gupta AK, Cerniglia GJ, Mick R, Ahmed MS, Bakanauskas VJ, Muschel RJ, McKenna WG. Radiation sensitization of human cancer cells in vivo by inhibiting the activity of PI3K using LY294002. IJROBP 56: 846-853, 2003.

Kim I, Fernandes A, Wu J, **Gupta A**, Muschel RJ, McKenna WG, Bernhard EJ. Selective inhibition of RAS signaling pathway increases the radiosensitivity in the wild type head & neck squamous cancer cell line with EGFR overexpression. Int J Radiat Oncol Biol Phys. 57(2 Suppl):S354, 2003.

Martin NE, Brunner TB, Kiel KD, DeLaney TF, Regine WF, Mohiuddin M, Rosato EF, Haller DG, Stevenson JP, Smith D, Pramanik B, Tepper J, Tanaka WK, Morrison B, Deutsch P, **Gupta AK**, Muschel RJ, McKenna WG, Bernhard EJ, Hahn SM. A phase I trial of the dual farnesyltransferase and geranylgeranyltransferase inhibitor L-778,123 and radiotherapy for locally advanced pancreatic cancer. Clin Cancer Res. 10: 5447-5454, 2004

Gupta AK, Soto DE, Feldman MD, Goldsmith JD, Mick R, Hahn SM, Machtay M, Muschel RJ, McKenna WG. Signaling pathways in NSCLC as a predictor of outcome and response to therapy. Lung. 182: 151-162, 2004

Gupta AK, Cerniglia GJ, Mick R, McKenna WG, Muschel RJ. HIV-1 protease inhibitors block Akt signaling and radiosensitize tumor cells both *in vitro* and *in vivo*. Cancer Res. 65: 8256-8265, 2005.

Pore N, Ziang Z, **Gupta A**, Cerniglia G, Kao GD, Maity A. EGFR tyrosine kinase inhibitors decrease VEGF expression by both hypoxia-inducible factor (HIF)-1-independent and HIF-1-dependent mechanisms. Cancer Res. 66: 3197-3204, 2006.

Pore N, **Gupta AK**, Cerniglia GJ, Jiang Z, Bernhard EJ, Evans SM, Koch CJ, Hahn SM, Maity A. Nelfinavir down-regulates hypoxia-inducible factor 1alpha and

VEGF expression and increases tumor oxygenation: implications for radiotherapy. Cancer Res. 66: 9252-9259, 2006.

Pore N, **Gupta AK**, Cerniglia GJ, Maity A. HIV protease inhibitors decrease VEGF/HIF1α expression and angiogenesis in glioblastoma cells. Neoplasia 2006.

Gupta AK, Li B, Cerniglia GJ, Ahmed MS, Hahn SM, Maity A. The HIV protease inhibitor nelfinavir downregulates Akt.phosphorylation by inhibiting proteasomal activity and inducing the unfolded protein response. Submitted to J Biol Chem.

Weber CN, Cerniglia GJ, **Gupta AK**. Bortezomib sensitizes human head and neck carcinoma cells SQ20B to radiation. Submitted to Cancer Biology and Therapy.

Research Publications, non-peer reviewed

Gupta AK, Harris ERJ, Bernhard EJ, Muschel RJ, McKenna WG, 2000. Overview of cell cycle and apoptosis. Pass, Mitchell, Turrisi, and Minna eds. Lippincott Williams and Wilkins, Philadelphia, PA. In *Lung Cancer: Principles and Practice, 2nd edition*. pp. 67-81, 2000.

Gupta AK, Bakanauskas VJ, McKenna WG, Bernhard EJ, Muschel RJ. Ras Regulation of radioresistance in cell culture. In *Methods in Enzymology.* W.E. Balch, C.J. Der, and A. Hall eds. Academic Press, NY, NY. 333: 284-290, 2001.

Bernhard EJ, **Gupta AK**, Cohen-Jonathan E, Muschel RJ, Hahn SM, McKenna WG. Inhibiting signal transduction as an approach to radiosensitizing tumor cells. In *Oncogene Derected Therapies*. J. Rak, ed. Humana Press Inc. Totowa, NJ, 2002.

McKenna WG, Muschel RJ, **Gupta AK**, Hahn SM, Bernhard EJ. Farnesyltransferase inhibitors as radiation sensitizers. Seminars in Radiation Oncology 12 (3 Suppl 2):27-32, 2002.

Brunner TB, Shi Y, **Gupta AK**, Hahn SM, Muschel RJ, McKenna WG, Bernhard EJ. Bench to bedside studies of radiosensitization by Farnesyltransferase inhibitors. In *Recent Research Developments in Cancer*. S.G.Pandali ed, Transworld Research Network, Kerala, India Pp 613-624, 2002.

Bernhard EJ, **Gupta AK**, Hahn SM, Muschel RJ, McKenna WG. Ras signaling and its inhibition with Farnesyltransferase inhibitors: effects on radiation resistance and the tumor microenvironment. In *Modification of Radiation Response: Cytokines, Growth Factors, and Other Biological Targets.* Nieder, L. Milas, K.K. Ang eds. Springer-Verlag Berlin Heidelberg, Germany. C, Pp 259-274, 2003.

McKenna WG, Muschel RJ, **Gupta AK**, Hahn SM, Bernhard EJ. The Ras Signal Transduction Pathway and its Role in Radiation Sensitivity, Oncogene. 1;22(37):5866-75, 2003.

McKenna WG, Muschel RJ, **Gupta A**, Hahn S, Bernhard EJ. Signaling inhibition with radiation in colorectal cancer: clinical trials. Semin Oncol. 30(3 Suppl 6):56-67, 2003.

Brunner TB, Hahn SM, **Gupta AK**, Muschel RJ, McKenna WG, Bernhard EJ. Farnesyltransferase inhibitors: an overview of the results of preclinical and clinical investigations. Cancer Res. 15;63(18):5656-68, 2003.

Kim IA, Fernandes AT, **Gupta AK**, McKenna WG, Bernhard EJ. The influence of Ras pathway signaling on tumor radiosensitivity. Cancer Metastasis Rev. 23 (3-4): 227-236, 2004.

Abstracts:

Anjali K. Gupta, W. Gillies McKenna, Charles N. Weber, Michael D. Feldman, Rosemarie Mick, Mitchell Machtay, George J. Cerniglia, Vincent J. Bakanauskas, Eric J. Bernhard, Randal S. Weber, Ruth J. Muschel. Signaling Pathways Involved in Head and Neck Cancer Radiation Resistance. AACR Annual Meeting, Poster Presentation, San Francisco, April 2002.

Anjali K. Gupta, V. J. Bakanauskas, E. J. Bernhard, R. J. Muschel, W. G. McKenna. The Ras Radioresistance Signal Transduction Pathway. ASTRO Annual Meeting, Oral Presentation, Boston, October 2002.

Anjali K. Gupta, George J. Cerniglia, Vincent J. Bakanauskas, Mona Ahmed, Ruth J. Muschel, W. Gillies McKenna. Radiation Sensitization of T24 xenografts by Inhibiting the Activity of PI3K. ASTRO Annual Meeting, Oral Presentation, New Orleans, October 2002

Anjali K. Gupta, Daniel E. Soto, Karen S. Gustafson, Michael D. Feldman, Rosemarie Mick, Mitchell Machtay, Steven M. Hahn, Ruth J. Muschel, W. Gillies McKenna, Signaling Pathways in NSCLC as a Predictor of Outcome and Response to Therapy, Poster Presentation, AACR Annual Meeting, Washington D.C., July 2003.

Anjali K. Gupta, Daniel E. Soto, Karen S. Gustafson, Michael D. Feldman, Rosemarie Mick, Mitchell Machtay, Steven M. Hahn, Ruth J. Muschel, W. Gillies McKenna, Signaling Pathways in NSCLC as a Predictor of Outcome and Response to Therapy, Radiation Research, Brisbane Australia, August 2003.

Anjali K. Gupta, George J. Cerniglia, Mona S. Ahmed, Ruth J. Muschel, W. Gillies McKenna. Inhibitic c-Abl does not sensitize SQ20B human tumor cells to ionizing radiation. AACR Annual Meeting, Orlando, FL, March 2004.

Anjali K. Gupta, George J. Cerniglia, Ruth J. Muschel, W. Gillies McKenna. Phophorylation of glycogen synthase kinase -3 Beta does not contribute to radiation resistance in two cell lines with activation of the Akt pathway. 46th Annual ASTRO Meeting, Atlanta, GA, October 2004.

Anjali K. Gupta, George J. Cerniglia, Rosemarie Mick, W. Gillies McKenna, Ruth J. Muschel. The Use of HIV protease inhibitors as radiation sensitizers. AACR Annual Meeting, Anaheim, CA, April 2005.

Anjali K. Gupta, George J. Cerniglia, Rosemarie Mick, W. Gillies McKenna, Ruth J. Muschel. Down-regulation of Akt signaling with HIV-1 protease inhibitors. 47th Annual ASTRO Meeting, Denver, CO, October 2005.

Li B, Cerniglia GJ, Ahmed MS, Hahn SM, **Gupta AK**. The HIV protease inhibitor nelfinavir couples the down-regulation of AKT with the induction of the unfolded protein response through activation of EIF2alpha. 97th AACR Annual Meeting, Washington DC, April 2006.

Patents:

Pending: Use of HIV protease inhibitors as radiation sensitizers.