

QUICK LINKS:

about

people

- faculty
 - recent publications
 - courses
- staff

research

events

contacts

news

bme home

pratt home

duke home

undergrads

grads

industry

employment

MARK W DEWHIRST, PROFESSOR OF RADIATION ONCOLOGY AND BIOMEDICAL **ENGINEERING**

Contact Info:

Office 201 Med Sci Res Building

Location:

Email Address:

Web Page:

http://www.radonc.duke.edu/department/academ/div/cancerbio/fac

Education:

Ph.D., Colorado State University, 1979

Specialties:

Medical Imaging

Representative Publications (More Publications)

AC Lockhart, RD Braun, D Yu, JR Ross, MW Dewhirst, JS Humphrey, S Thompson, KM Williams, B Klitzman, F Yuan, JM Grichnik, AD Proia, DA Conway, HI Hurwitz, Reduction of wound angiogenesis in patients treated with BMS-275291, a broad spectrum matrix metalloproteinase inhibitor., Clinical cancer research: an official journal of the American Association for Cancer Research, United States, vol. 9 no. 2 (February, 2003), pp. 586-93 [abs]. MW Dewhirst, Mechanisms underlying hypoxia development in tumors., Advances in experimental medicine and biology, United States, vol. 510 (2003), pp. 51-6. RA Richardson, MW Dewhirst, The effect of nicotinamide & hyperoxic gases on blood glucose.,

Advances in experimental medicine and biology, United States, vol. 510 (2003), pp. 375-8. EM Zeman, JR Dynlacht, BS Rosenstein, MW Dewhirst, ASTRO Joint Working Group on Radiobiology Teaching, Toward a national consensus: teaching radiobiology to radiation oncology residents., International journal of radiation oncology, biology, physics, United States, vol. 54 no. 3 (November, 2002), pp. 861-72 [abs].

Z Vujaskovic, I Batinic-Haberle, ZN Rabbani, QF Feng, SK Kang, I Spasojevic, TV Samulski, I Fridovich, MW Dewhirst, MS Anscher, A small molecular weight catalytic metalloporphyrin antioxidant with superoxide dismutase (SOD) mimetic properties protects lungs from radiationinduced injury., Free radical biology & medicine, United States, vol. 33 no. 6 (September, 2002), pp. 857-63 [abs].

CW Wong, C Song, MM Grimes, W Fu, MW Dewhirst, RJ Muschel, AB Al-Mehdi, Intravascular location of breast cancer cells after spontaneous metastasis to the lung., The American journal of pathology, United States, vol. 161 no. 3 (September, 2002), pp. 749-53 [abs].

BD Kavanagh, TW Secomb, R Hsu, PS Lin, J Venitz, MW Dewhirst, A theoretical model for the effects of reduced hemoglobin-oxygen affinity on tumor oxygenation., International journal of radiation oncology, biology, physics, United States, vol. 53 no. 1 (May, 2002), pp. 172-9 labs l.

JR Dynlacht, MW Dewhirst, EJ Hall, BS Rosenstein, EM Zeman, Toward a consensus on radiobiology teaching to radiation oncology residents., Radiation research, United States, vol. 157 no. 5 (May, 2002), pp. 599-606 [abs].

LP Hale, RD Braun, WM Gwinn, PK Greer, MW Dewhirst, Hypoxia in the thymus: role of oxygen tension in thymocyte survival., American journal of physiology. Heart and circulatory physiology, United States, vol. 282 no. 4 (April, 2002), pp. H1467-77 [abs].

D Needham, MW Dewhirst, The development and testing of a new temperature-sensitive drug delivery system for the treatment of solid tumors., Advanced drug delivery reviews,

Netherlands, vol. 53 no. 3 (December, 2001), pp. 285-305 [abs].

BW Poque, RD Braun, JL Lanzen, C Erickson, MW Dewhirst, Analysis of the heterogeneity of pO2 dynamics during photodynamic therapy with verteporfin., Photochemistry and photobiology,

```
United States, vol. 74 no. 5 (November, 2001), pp. 700-6 [abs].
```

F Lohr, Q Huang, K Hu, MW Dewhirst, CY Li, *Systemic vector leakage and transgene expression by intratumorally injected recombinant adenovirus vectors.*, Clinical cancer research: an official journal of the American Association for Cancer Research, United States, vol. 7 no. 11 (November, 2001), pp. 3625-8 [abs].

S Walenta, S Snyder, ZA Haroon, RD Braun, K Amin, D Brizel, W Mueller-Klieser, B Chance, MW Dewhirst, *Tissue gradients of energy metabolites mirror oxygen tension gradients in a rat mammary carcinoma model.*, International journal of radiation oncology, biology, physics, United States, vol. 51 no. 3 (November, 2001), pp. 840-8 [abs].

SN Ettinger, CC Poellmann, NA Wisniewski, AA Gaskin, JS Shoemaker, JM Poulson, MW Dewhirst, B Klitzman, *Urea as a recovery marker for quantitative assessment of tumor interstitial solutes with microdialysis.*, Cancer research, United States, vol. 61 no. 21 (November, 2001), pp. 7964-70 [abs].

DM Brizel, T Schroeder, RL Scher, S Walenta, RW Clough, MW Dewhirst, W Mueller-Klieser, Elevated tumor lactate concentrations predict for an increased risk of metastases in head-and-neck cancer., International journal of radiation oncology, biology, physics, United States, vol. 51 no. 2 (October, 2001), pp. 349-53 [abs].

SA Snyder, JL Lanzen, RD Braun, G Rosner, TW Secomb, J Biaglow, DM Brizel, MW Dewhirst, Simultaneous administration of glucose and hyperoxic gas achieves greater improvement in tumor oxygenation than hyperoxic gas alone., International journal of radiation oncology, biology, physics, United States, vol. 51 no. 2 (October, 2001), pp. 494-506 [abs].

GM Tozer, VE Prise, J Wilson, M Cemazar, S Shan, MW Dewhirst, PR Barber, B Vojnovic, DJ Chaplin, *Mechanisms associated with tumor vascular shut-down induced by combretastatin A-4 phosphate: intravital microscopy and measurement of vascular permeability.*, Cancer research, United States, vol. 61 no. 17 (September, 2001), pp. 6413-22 [abs].

A Lal, H Peters, B St Croix, ZA Haroon, MW Dewhirst, RL Strausberg, JH Kaanders, AJ van der Kogel, GJ Riggins, *Transcriptional response to hypoxia in human tumors.*, Journal of the National Cancer Institute, United States, vol. 93 no. 17 (September, 2001), pp. 1337-43 [abs]. S Shan, AC Lockhart, WY Saito, AM Knapp, KR Laderoute, MW Dewhirst, *The novel tubulin-binding drug BTO-956 inhibits R3230AC mammary carcinoma growth and angiogenesis in Fischer 344 rats.*, Clinical cancer research: an official journal of the American Association for Cancer

DE Meyer, BC Shin, GA Kong, MW Dewhirst, A Chilkoti, *Drug targeting using thermally responsive polymers and local hyperthermia.*, Journal of controlled release: official journal of the Controlled Release Society, Netherlands, vol. 74 no. 1-3 (July, 2001), pp. 213-24 [abs].

Z Vujaskovic, MS Anscher, QF Feng, ZN Rabbani, K Amin, TS Samulski, MW Dewhirst, ZA Haroon, *Radiation-induced hypoxia may perpetuate late normal tissue injury.*, International journal of radiation oncology, biology, physics, United States, vol. 50 no. 4 (July, 2001), pp. 851-5 [abs].

Research, United States, vol. 7 no. 8 (August, 2001), pp. 2590-6 [abs].

RD Braun, JL Lanzen, SA Snyder, MW Dewhirst, *Comparison of tumor and normal tissue oxygen tension measurements using OxyLite or microelectrodes in rodents.*, American journal of physiology, Heart and circulatory physiology, United States, vol. 280 no. 6 (June, 2001), pp. H2533-44 [abs].

RD Braun, JL Lanzen, JA Turnage, G Rosner, MW Dewhirst, *Effects of the interaction between carbogen and nicotinamide on R3230 Ac tumor blood flow in Fischer 344 rats.*, Radiation research, United States, vol. 155 no. 5 (May, 2001), pp. 724-33 [abs].

M Neeman, H Dafni, O Bukhari, RD Braun, MW Dewhirst, *In vivo BOLD contrast MRI mapping of subcutaneous vascular function and maturation: validation by intravital microscopy.*, Magnetic resonance in medicine: official journal of the Society of Magnetic Resonance in Medicine / Society of Magnetic Resonance in Medicine, United States, vol. 45 no. 5 (May, 2001), pp. 887-98 [abs].

G Kong, RD Braun, MW Dewhirst, *Characterization of the effect of hyperthermia on nanoparticle extravasation from tumor vasculature.*, Cancer research, United States, vol. 61 no. 7 (April, 2001), pp. 3027-32 [abs].

CE Connor, JD Norris, G Broadwater, TM Willson, MM Gottardis, MW Dewhirst, DP McDonnell, Circumventing tamoxifen resistance in breast cancers using antiestrogens that induce unique conformational changes in the estrogen receptor., Cancer research, United States, vol. 61 no. 7 (April, 2001), pp. 2917-22 [abs].

F Lohr, DY Lo, DA Zaharoff, K Hu, X Zhang, Y Li, Y Zhao, MW Dewhirst, F Yuan, CY Li, *Effective tumor therapy with plasmid-encoded cytokines combined with in vivo electroporation.*, Cancer research, United States, vol. 61 no. 8 (April, 2001), pp. 3281-4 [abs].

DE Meyer, GA Kong, MW Dewhirst, MR Zalutsky, A Chilkoti, *Targeting a genetically engineered elastin-like polypeptide to solid tumors by local hyperthermia.*, Cancer research, United States, vol. 61 no. 4 (February, 2001), pp. 1548-54 [abs].

M Neeman, JM Provenzale, MW Dewhirst, *Magnetic resonance imaging applications in the evaluation of tumor angiogenesis.*, Seminars in radiation oncology, UNITED STATES, vol. 11 no. 1 (January, 2001), pp. 70-82 [abs].

CY Li, JB Little, K Hu, W Zhang, L Zhang, MW Dewhirst, Q Huang, *Persistent genetic instability in cancer cells induced by non-DNA-damaging stress exposures.*, Cancer research, United States,

vol. 61 no. 2 (January, 2001), pp. 428-32 [abs].

MW Dewhirst, H Kimura, SW Rehmus, RD Braun, D Papahadjopoulos, K Hong, TW Secomb, *Microvascular studies on the origins of perfusion-limited hypoxia.*, The British journal of cancer. Supplement, ENGLAND, vol. 27 (July, 1996), pp. S247-51 [abs].

DM Brizel, SP Scully, JM Harrelson, LJ Layfield, JM Bean, LR Prosnitz, MW Dewhirst, *Tumor oxygenation predicts for the likelihood of distant metastases in human soft tissue sarcoma.*, Cancer research, UNITED STATES, vol. 56 no. 5 (March, 1996), pp. 941-3 [abs].

H Kimura, NZ Wu, R Dodge, DP Spencer, BM Klitzman, TM McIntyre, MW Dewhirst, *Inhibition of radiation-induced up-regulation of leukocyte adhesion to endothelial cells with the platelet-activating factor inhibitor, BN52021.*, International journal of radiation oncology, biology, physics, UNITED STATES, vol. 33 no. 3 (October, 1995), pp. 627-33 [abs].

HD Sostman, DM Prescott, MW Dewhirst, RK Dodge, DE Thrall, RL Page, JA Tucker, JM Harrelson, G Reece, KA Leopold, *MR imaging and spectroscopy for prognostic evaluation in soft-tissue sarcomas.*, Radiology, UNITED STATES, vol. 190 no. 1 (January, 1994), pp. 269-75 [abs].

PD Maguire, TV Samulski, LR Prosnitz, EL Jones, GL Rosner, B Powers, LW Layfield, DM Brizel, SP Scully, JM Harrelson, MW Dewhirst, *A phase II trial testing the thermal dose parameter CEM43 degrees T90 as a predictor of response in soft tissue sarcomas treated with pre-operative thermoradiotherapy.*, International journal of hyperthermia: the official journal of European Society for Hyperthermic Oncology, North American Hyperthermia Group, England, vol. 17 no. 4, pp. 283-90 [abs].

ZA Haroon, K Amin, W Saito, W Wilson, CS Greenberg, MW Dewhirst, *SU5416 delays wound healing through inhibition of TGF-beta 1 activation.*, Cancer biology & therapy, United States, vol. 1 no. 2, pp. 121-6 [abs].

Biomedical Engineering Department
Pratt School of Engineering | Duke University
Room 136 Hudson Hall • Box 90281 • Durham, NC 27708-0281
Phone: (919) 660-5131 • Fax: (919) 684-4488