BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Graves, Edward E.	Assistant Professor
eRA COMMONS USER NAME GRAVES.EDWARD	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of California, Berkeley, CA	B.S.	1992-1996	Bioengineering
University of California, San Francisco and Berkeley, CA	Ph.D.	1996-2001	Bioengineering
Massachusetts General Hospital, Charlestown, MA	Postdoc	2001-2003	Molecular Imaging

A. POSITIONS AND HONORS

Professional Experience

1995-1996	Research assistant with Dr. Leon Chua, University of California, Berkeley, CA
1996-2001	Graduate student researcher with Sarah Nelson, University of California, San Francisco, CA
2001-2003	Postdoctoral fellow with Ralph Weissleder, Massachusetts General Hospital, Charlestown, MA
2003-2004	Acting Assistant Professor, Department of Radiation Oncology, Stanford University, Stanford, CA
2004-	Assistant Professor, Department of Radiation Oncology, Stanford University, Stanford, CA

Honors

1998	UC Berkeley Block Grant recipient
1996,1997,1999	NIH Predoctoral Training Grant recipient
2000	First prize, student poster competition, ISMRM Cancer Workshop
2000	Achievement Rewards for College Scientists scholar
2001,2002	NIH Postdoctoral Training Grant recipient

B. SELECTED PEER-REVIEWED PUBLICATIONS (from a total of 37):

(1) **Graves EE,** Nelson SJ, Vigneron DB, Chin C, Verhey L, McDermott M, Larson D, Sneed PK, Chang S, Prados MD, Lamborn K, Dillon WP. (2000) A Preliminary Study of the Prognostic Value of Proton Magnetic Resonance Spectroscopic Imaging in Gamma Knife Radiosurgery of Recurrent Malignant Gliomas. *Neurosurgery* **46**: 319-328.

(2) McDermott MW, Chang SM, Keles GE, **Graves EE**, Nelson SJ, Larson DA, Berger MS. (2000) Gamma Knife Radiosurgery for Primary Brain Tumors. In LINAC and Gamma Knife Radiosurgery (Germano, I.M., ed.), American Association of Neurological Surgeons, pp. 189-202.

(3) **Graves EE**, Nelson SJ, Vigneron DB, Verhey L, McDermott M, Larson D, Chang S, Prados MD, Dillon WP. (2001) Serial Proton MR Spectroscopic Imaging of Recurrent Malignant Gliomas after Gamma Knife Radiosurgery. *American Journal of Neuroradiology* **22**: 613-624.

(4) Pirzkall A, McKnight TR, **Graves EE**, Carol MP, Sneed PK, Wara WW, Nelson SJ, Verhey LJ, Larson DA. (2001) MR-Spectroscopy Guided Target Delineation for High-Grade Gliomas. *International Journal of Radiation Oncology Biology Physics* **50**: 915-928.

(5) **Graves EE**, Pirzkall A, Nelson SJ, Verhey L, Larson D. (2001) Registration of Magnetic Resonance Spectroscopic Imaging to Computed Tomography for Radiotherapy Treatment Planning. *Medical Physics* **28**: 2489-2496.

(6) Ntziachristos V, Bremer C, **Graves EE**, Weissleder R. (2002) In-vivo tomographic imaging of near-infrared fluorescent probes. *Journal of Molecular Imaging* **1**: 82-88.

(7) **Graves EE**, Pirzkall A, McKnight TR, Vigneron DB, Larson DA, Verhey LJ, McDermott M, Chang S, Nelson SJ. (2002) Use of Proton Magnetic Resonance Spectroscopic Imaging Data for Planning Focal Radiation Therapies. *Image Analysis and Stereology* **21**: 69-76.

(8) Pirzkall A, Nelson SJ, McKnight TR, Takahashi MM, Li X, **Graves EE**, Verhey LJ, Wara WW, Larson DA, Sneed PK. (2002) Metabolic imaging of low-grade gliomas with three-dimensional magnetic resonance spectroscopy. *International Journal of Radiation Oncology Biology Physics* **53**: 1254-1264.

(9) McKnight TR, von dem Bussche MH, Vigneron DB, Lu Y, Berger MS, McDermott MW, Dillon WP, Pirzkall A, **Graves EE**, Nelson SJ. (2002) Histopathological validation of a three-dimensional magnetic resonance spectroscopy index as a predictor of tumor presence. *Journal of Neurosurgery* **97**: 794-802.
(10) Nelson SJ, **Graves E**, Pirzkall A, Li X, Chan AA, Vigneron DB, McKnight TR. (2002) In Vivo Molecular Imaging for Planning Radiation Therapy of Gliomas: An Application of 1H MRSI. *Journal of Magnetic Resonance Imaging* **16**, 464-476.
(11) **Graves EE**, Ripoll J, Weissleder R, Ntziachristos V. (2003) A Sub-Millimeter Resolution Fluorescence Molecular Imaging System for Small Animal Imaging. *Medical Physics* **30**: 901-911.
(12) Kircher MF, Allport JR, **Graves EE**, Love V, Josephson L, Lichtman AH, Weissleder R. (2003) In vivo high resolution three-dimensional imaging of antigen-specific cytotoxic T-lymphocyte trafficking to tumors. *Cancer Research* **63**: 6838-6846.
(13) **Graves EE**, Culver JP, Ripoll J, Weissleder R, Ntziachristos V. (2004) Singular-value analysis and optimization of experimental parameters in fluorescence molecular tomography. *Journal of the Optical Society of America A* **21**:231-241.
(14) **Graves EE**, Weissleder R, Ntziachristos V. (2004) Fluorescence Molecular Imaging of Small Animal Tumor Models. *Current Molecular Medicine* **4**:419-430.
(15) Ntziachristos V, Schellenberger EA, Ripoll J, Yessayan D, **Graves E**, Bogdanov A, Josephson L, Weissleder R. (2004) Visualization of antitumor treatment by means of fluorescence molecular tomography with an annexin V-Cy 5.5 conjugate. *Proceedings of the National Academy of Sciences of the United States of America* **101**: 12294-12299.
(16) Li X, Vigneron DB, Cha S, **Graves EE**, Crawford F, Chang SM, Nelson SJ (2005). Relationship of MR-Derived Lactate, Mobile Lipids, and Relative Blood Volume for Gliomas *in Vivo*. *American Journal of Neuroradiology* **26**: 760-769.
(17) **Graves EE**, Yessayan D, Turner G, Weissleder R, Ntziachristos V (2005). Validation of In Vivo Fluorochrome Concentrations Measured Using Fluorescence Molecular Tomography. *Journal of Biomedical Optics* **10**:44019.
(18) Catalaa I, Henry R, Dillon WP, **Graves EE**, McKnight TR, Lu Y, Vigneron DB, Nelson SJ. Perfusion, Diffusion and Spectroscopy Values in Newly Diagnosed Cerebral Gliomas. *NMR in Biomedicine* 2006, 19:463-475.
(19) **Graves EE**, Giaccia AJ. Imaging Tumoral Hypoxia: Oxygen Concentrations and Beyond. *Oncology* 2007, 21:368-378.
(20) **Graves EE**, Quon A, Loo BW. RT_Image: An Open Source Tool for Investigating PET in Radiation Oncology. *Technology in Cancer Research and Therapy* 2007, 6:111-121.
(21) Cecic I, Chan D, Sutphin P, Ray P, Gambhir SS, Giaccia A, **Graves EE**. Oxygen sensitivity of reporter genes: implications for preclinical imaging of tumor hypoxia. *Molecular Imaging* 2007, 6:219-228.
(22) Cheng Z, Zhang L, **Graves E**, Xiong Z, Dandekar M, Chen X, Gambhir SS. Small-animal PET of melanocortin 1 receptor expression using a 18F-labeled alpha-melanocyte-stimulating hormone analog. *Journal of Nuclear Medicine* 2007, 48:987-994.
(23) **Graves EE**, Cecic IK, Zhang L, Giaccia AJ. Imaging Hypoxia-Inducible Pathways as Prognostic Biomarkers for Cancer. *Frontiers in Bioscience* (in press).
(24) Lee P, Weerasuriya D, Le Q, Lavori PW, Quon A, Hara W, Wakelee H, **Graves E**, Loo BW. Metabolic Tumor Burden Predicts for Disease Progression in Lung Cancer. *International Journal of Radiation Oncology Biology Physics* 2007, 69:328-333.
(25) **Graves EE**, Zhou H, Chatterjee R, Keall PJ, Gambhir SS, Contag CH, Boyer AL. Design and Evaluation of a Variable Aperture Collimator for Conformal Radiotherapy of Small Animals. *Medical Physics* 2007, 34: 4359-4367.
(26) Le QT, Koong A, Lieskovsky YY, Narasimhan B, **Graves E**, Pinto H, Brown JM, Spielman D. In vivo (1)H Magnetic Resonance Spectroscopy of Lactate in Patients with Stage IV Head-and-Neck Squamous Cell Carcinoma. *International Journal of Radiation Oncology Biology Physics* 2008, 71:1151-1157.
(27) Bennewith KL, Huang X, Ham CM, **Graves EE**, Erler JT, Kambham N, Feazell J, Yang GP, Koong A, Giaccia AJ. The Role of Tumor Cell-Derived Connective Tissue Growth Factor (CTGF/CCN2) in Pancreatic Tumor Growth. *Cancer Research* 2009; 69:775-784.
(28) Zhou H, Keall PJ, **Graves EE**. A Bone Composition Model for Monte Carlo X-ray Transport Simulations. *Medical Physics* 2009, 36:1008-1018.
(29) Rodriguez M, Zhou H, Keall P, **Graves E**. Commissioning of a Novel MicroCT/RT System for Small Animal Conformal Radiotherapy. *Physics in Medicine and Biology* 2009; 54:3727-3740.
(30) Minn AY, Schellenberg D, Maxim P, Cox B, Dieterich S, Xing L, **Graves E**, Goodman K, Chang D, Koong AC. Pancreatic tumor motion on a single planning 4D-CT does not correlate with intrafraction tumor motion during treatment. *American Journal of Clinical Oncology* 2009; 32:364-368.

(31) La TH, Filion EJ, Turnbull BB, Chu JN, Lee P, Nguyen K, Maxim P, Loo BW, Quon A, **Graves EE**, Le QT. Metabolic Tumor Volume Predicts for Recurrence and Death in Head and Neck Cancer. *International Journal of Radiation Oncology Biology Physics* 2009; 74:1335-1341.
(32) Cairns R, Bennewith K, **Graves E**, Giaccia A, Chang D, Denko N. Pharmacologically increased tumor hypoxia can be measured by ^{18}F FAZA PET and enhances tumor response to hypoxic cytotoxin PR-104. *Clinical Cancer Research* 2009; Epub ahead of print.
(33) Schellenberg D, Quon A, Minn YA**, Graves EE**, Kunz P, Ford JM, Fisher GA, Goodman KA, Koong AC, Chang DT. ^{18}Fluorodoxyglucose-PET is prognostic of progression free and overall survival in locally advanced pancreas cancer treated with stereotactic radiotherapy. *International Journal of Radiation Oncology Biology Physics* (in press).
(34) Bazalova M, Zhou H, Keall PJ, **Graves EE**. Kilovoltage beam Monte Carlo dose calculations in sub-millimeter voxels for small animal radiotherapy. *Medical Physics* 2009; 36:4991-4999.
(35) **Graves EE**, Maity A, Le QT. The tumor microenvironment in NSCLC. *Seminars in Radiation Oncology* (in press).
(36) Zhou H, Xu J, Rodriguez M, van den Haak F, Zhu X, Xian Y, Nelson G, Jogani R, Keall PJ, **Graves EE**. Development of a MicroCT-Based Image-Guided 3D Conformal Radiotherapy System for Small Animals. *International Journal of Radiation Oncology Biology Physics* (in press).
(37) Motomura AR, Bazalova M, Zhou H, Keall PJ, **Graves EE**. Investigation of the effects of treatment planning variables in small animal radiotherapy dose distributions. *Medical Physics* (in press).