

Walter G. O'Dell, PhD

Assistant Professor
Dept. Radiation Oncology

Davis Cancer Pavilion, Rm 1241
PO Box 100385
UF Health Shands Cancer Center
University of Florida
Gainesville, FL 32610
352-265-7834

wodell@ufl.edu
<http://odell.radonc.med.ufl.edu/>

EDUCATION

- 2000 Post-doctoral Fellow, Cardiac Mechanics Research Group, University of California San Diego, CA
Advisor: Andrew McCulloch
- 1995 PhD, Biomedical Engineering, Johns Hopkins University, Baltimore, MD
Myocardial Deformation Analysis in the Passive Dog Heart Using High Resolution MRI Tagging
Advisors: William Hunter and Elliot McVeigh
- 1986 BS, Applied and Engineering Physics, Cornell University, Ithaca, NY

HONORS

- 2018 University of Florida College of Medicine Exemplary Teacher Award
- 2017 UFHCC Department of Radiation Oncology Basic Research Education Award
- 2016 University of Florida College of Medicine Exemplary Teacher Award
- 2016 UFHCC Department of Radiation Oncology Research Teaching Award
- 2016 UFHCC Department of Radiation Oncology Transformative Medicine Award
- 2002-2006 American Cancer Society Research Scholar Grant Award
- 2002 Department Casarett Award for Excellence in Translational Research
- 1997-1999 American Heart Association Postdoctoral Fellowship Award
- 1997 NIH National Research Service Award, Postdoctoral Fellowship (declined by PI)
- 1994 Society of Magnetic Resonance Imaging Abstract Cum Laude Award
- 1991, 1992, 1995 Society of Magnetic Resonance in Medicine Student Stipend
- 1984-1986 John McMullan Dean's Undergraduate Scholarship
- Spring 1985, Fall 1984 Cornell Dean's List Award

PERSONAL STATEMENT

My PhD research involved magnetic resonance imaging with cardiac tagging for measuring 3D deformations of the heart wall with the group led by Elias Zerhouni and Elliot McVeigh, the inventors of this technique. My primary role in the MR group was to develop, implement and validate the mathematical formalism for recreating three-dimensional (3D) heart displacements and deformations for 3 sets of orthogonal tagged image sets. We were the first to successfully demonstrate and publish the reconstruction of fully 3D motion, deformation and strains from tagged cardiac MR images. We were also the first to demonstrate a mathematical method for reconstructing 3D motion from 3 sets of parallel-tagged images and the first true 3D validation of motion reconstruction from tagged images. Finally, ours was the first publication to demonstrate 3D regional heart wall strains in a human subject, and marked the starting point for applying cardiac tagging to assess regional wall dysfunction in the clinic.

I did my post-doc in the Cardiac Mechanics Research Group at UCSD under Andrew McCulloch, where I developed and performed 3D finite element modeling of the heart. In 2000, I was hired by Dr. Paul Okunieff, Chair, in Radiation Oncology at the University of Rochester Medical Center (URMC). It was Dr. Okunieff's

vision to apply high-dose RT locally to treated isolated tumors outside the head. I was hired to apply my motion reconstruction methods to model the motion of tumors inside the lung and liver during breath-hold RT delivery in an effort to reduce the uncertainty in knowledge of the location of each lesion to minimize treatment margins and reduce damage to the surrounding normal lung tissue. I was awarded an American Cancer Society Research Scholar grant to quantify tumor position reproducibility over multiple treatment fractions, and was the first to quantify the expected position variability and model the effect of tumor mis-location on the local radiation dose delivered to the target tumor. This data became the scientific basis for the treatment margins used for the pioneering stereotactic body radiation therapy (SBRT) treatments performed at the URM. Using these margins, our clinical team performed many successful SBRT pilot studies that have now shaped the routine clinical use of SBRT around the nation and the world. With increased usage of SBRT, concerns for radiation damage to surrounding healthy myocardium motivated me to investigate local long-term radiation response in patients who received SBRT for lung tumors. An NIH RO1 award enabled me to develop software tools to register pre- and post- treatment chest CT scans, and the prescribed radiation dose distribution, to interrogate the local radiation dose response for the human lung. In 2010, I moved to the University of Florida, following Dr. Okunieff and the majority of the radiation researcher from URM to continue advancements in cancer treatment and care using targeted radiation ablation.

I have extensive knowledge of radiation biology, radiation physics, MRI physics and hardware design, cardiovascular function and myocardial mechanics, computational mechanics, and 3D image processing technology. I have extensive experience in cardiac imaging and finite element modeling, image registration and fusion, automatic target detection sizing and tracking, and in modeling radiation delivery to mobile targets. I have mentored 3 BME PhD students, 9 MS students, 19 BME undergraduate independent research students, and 2 medical student summer research projects. I am a member of the Florida Breast Cancer Foundation’s Scientific Research Committee, and I have been a standing member of the Clinical Cancer Research and Epidemiology Grant Review Committee for the American Cancer Society since 2006. I am also a senior member of SPIE, the society that oversees the top annual conference for medical imaging and image processing. I have experience running clinical trials and managing large research efforts, am familiar with the clinical and technical aspects of cancer care, and proven commitment to improving cancer survival.

CURRENT RESEARCH SUPPORT

(O’Dell, Bradley) 3/1/2015-2/28/2021
Florida Dept. of Health Bankhead-Coley Research Program \$1,445,736 total over 5 years

Early Markers of Subclinical Pulmonary Vascular Radiation Toxicity in Breast Cancer

Our goal is to quantify radiation damage to pulmonary vasculature in breast cancer patients to document the time course of observable vascular damage; compare radiation effects between patients treated with standard X-rays versus proton beams (in patients treated by Dr. Julie Bradley at the UF Proton Therapy Institute); and correlate early-onset pulmonary vascular damage with the time-course of circulating cytokines, and with later-onset pulmonary fibrosis and conventional clinical indices of pulmonary function.

O’Dell role: PI

(Bradley) 6/1/2014-5/31/2017
Ocala Royal Dames for Cancer Research \$50,000 direct over 2 years

Prospective Pilot Study of Early Markers of Radiation-Induced Cardiac Injury in Patients with Left-Sided Breast Cancer Receiving Photon or Proton Therapy

We propose to obtain cardiac magnetic resonance (CMR) imaging in patients with left-sided breast cancer undergoing breast or chest wall RT to measure subclinical heart injury. CMR has demonstrated early cardiac injury after chemotherapy and identified late cardiac injury in Hodgkin lymphoma survivors treated with RT, but it is unclear whether early relatively low-dose radiation injury to breast cancer patients can be identified with CMR.

Application Submitted February 24, 2014

Budget start date: July 1, 2014

O'Dell role: Co-investigator. No faculty support permitted. TBA Student OPS appointed at 15.20% in year 1 (\$5129.00) and 8.50% in year 2 (\$2954.00)

(Odedina)

9/1/2014 - 8/30/2018

NIH NCI P20

\$456,348

Florida Minority Cancer Research & Training (MiCaRT) Center: Feasibility Studies

The primary objective of the MiCaRT Center is to expand the cancer research and training opportunities for underrepresented minority (URM) faculty and students at UF and FAMU, and ultimately grow the number of URM scientists and clinical investigators in biomedical research.

O'Dell role: Key Personnel; Faculty Mentor. Effort 4% in summer months in years 1-3.

Student Awards

(Carlos Lezcano III)

Florida Prostate Cancer Research Training Opportunities for Outstanding Leaders (ReTOOL) Program for 2019

Total department revenue: ?

Role: Faculty Mentor (0% salary support)

Awarded 3/1/2019

(Siri Ravuri)

UF Health Cancer Center University Scholars Program for 2019-20

Pulmonary vascular changes around developing tumors

Total department revenue: \$2,250

Role: Faculty Mentor (0% salary support)

Awarded 2/28/2019

(Siri Ravuri)

UF College of Medicine University Scholars Program for 2020-21

Pulmonary vascular changes around developing tumors II

Total department revenue: \$2,250

Role: Faculty Mentor (0% salary support)

Awarded 2/24/2020

(Shoba Abraham)

UF Health Cancer Center University Scholars Program for 2020-21

Validation of global longitudinal strain metric for cardiac health assessment

Total department revenue: \$2,250

Role: Faculty Mentor (0% salary support)

Awarded 2/24/2020

(Enrico Bautista)

UF College of Medicine University Scholars Program for 2020-21

Modeling dose calculation errors in proton therapy.

Total department revenue: \$2,250

Role: Faculty Mentor (0% salary support)

Awarded 2/24/2020

COMPLETED RESEARCH SUPPORT

(O'Dell, Takita)

7/1/2015-7/12/2017

Florida Academic Cancer Center Alliance

\$100,000 total over 1 year

Early Markers of Subclinical Pulmonary Vascular Radiation Toxicity in Breast Cancer

Our goal is to perform surveillance whole-body imaging in breast cancer survivors identify early stage metastases. The imaging will consist of one brain MRI and one whole-body PET/CT where the CT is performed at diagnostic quality and using injected vascular contrast. Patients include those with a 30% or higher risk of developing metastases, as determined from this initial breast cancer stage and type.

O'Dell role: PI

(Odedina)

8/1/2014 - 7/31/2016

DOD Prostate Cancer Research Program (PCRP) W81XWH-12-1-0083

\$182,650 total over 2 years

Renewal: The Florida Prostate Cancer Research Training Opportunities for Outstanding Leaders (ReTOOL) Program: Creating Opportunities for Minority HBCU Students

The ReTOOL program is a partnership program between University of Florida (UF) and Florida A&M University (FAMU) to address the lack of well-trained minority prostate cancer scientists in Florida. Within the next two years, we will train at least 10 FAMU minority students to create opportunities and promote prostate cancer research careers for these students in the areas of basic, behavioral, biomedical and clinical sciences. This is a renewal of the previous award by the same name.

O'Dell role: Co-investigator (2.5% effort)

(O'Dell)

7/1/2012-6/31/2014

Ocala Royal Dames for Cancer Research

\$50,000 total over 2 years

Phase II surveillance imaging trial for distant metastases in Stage III & IV breast cancer patients

Our goal is to perform surveillance CT imaging of the chest and abdomen to identify early stage metastases to the lung, liver, and thoracic bony anatomy. This 2-armed randomized treatment trial uses surveillance imaging of 12 subjects with recommendations for localized, targeted, ablative therapy of any identified lesions. Because the number of subjects is small, the endpoint of demonstrating improved overall survival may not be achieved; however, we expect 3 subjects to experience prolonged overall survival, as compared to controls. Important information to be gathered include the number of and size of metastases at first incidence, the time to first incidence, and the number of patients presenting with new lesions within the 2-year period of this award.

O'Dell role: PI

5/17/2014: given a 1-year no cost extension through 6/31/2016

(multiple Co-PIs)

12/31/2013

McKnight Brain Institute Equipment Grant Program

\$85k

Acquiring human whole brain phosphorous MRI capabilities in the McKnight Brain Institute

A whole brain dual tuned 31P-1H magnetic resonance spectroscopy head coil for use in the 3T Philips Achieva human magnet of the McKnight Institute Advanced Magnetic Resonance Imaging and

Spectroscopy (AMRIS) Facility. This coil enables whole brain acquisition of chemical shift spectroscopy for cerebral metabolite that contain phosphorus. This is extremely important for future studies aimed at examining cerebral metabolic disturbances involving mitochondrial function
O'Dell role: co-PI (0% salary support)

(O'Dell) 7/24/2013-7/23/2014
University of Florida Foundation \$40,000 total over 1 year
Retrospective analysis of lung radiation toxicity following SBRT
Goal to gather follow-up CT scans in patients treated with high dose radiation to tumors in the lung and to see our custom software tools to extract information about the development and progression of radiation fibrosis in the lung tissue.
O'Dell role: PI. Effort: 30%

(O'Dell) 7/1/2012-6/31/2014
University of Florida Foundation \$22,000 total over 1 year
Phase II surveillance imaging trial for distant metastases in Stage III & IV breast cancer patients
This supports my effort for the ORD award below.
O'Dell role: PI. Effort: 2.4 Calendar Months (20%) where salary support of first year was funded through UFSCC but for year 2 the salary support was funded through the UF Foundation

Student Awards

(Shruti Siva Kumar) 5/17/2018
Anita Borg Grace Hopper Celebration (GHC) student scholarship
Total department revenue: costs for conference attendance
O'Dell Role: Faculty Mentor (0% salary support)

(Aren Saini) 6/1/2018 – 5/2019
UF College of Medicine University Scholars Program for Undergraduates \$2,250 total
Monitoring pulmonary vascular development post-birth in pre-term gestation children.
Children born prematurely or with congenital defects in their pulmonary system have abnormal vasculature at birth that can persist throughout their lives. I will apply software developed in our lab to characterize the growth and development of the pulmonary vasculature in pediatric patients to establish the normal development trends upon which to compare a patient's lung progression.
O'Dell role: Faculty Mentor (0% salary support)

(Sneh Parekh) 6/1/2016 – 5/2017
UF College of Medicine University Scholars Program for Undergraduates \$2,250 total
Modeling the 3D vascular anatomy of the kidney
Robotic-assisted surgical removal of tumors of the kidney is hampered by the inability to fully appreciate the 3D extend of the major blood and collection vessels in and around the kidney. In collaboration with Dr. O'Dell and Dr. Li-ming Su, (Urology) I will use the vessel extraction and modeling tools in our lab to reconstruct the 3D vascular and other key anatomy of the kidney in patients as an aid in surgical planning and during surgery.
O'Dell role: Faculty Mentor (0% salary support)

(Alexandria Waler) 6/1/2015 – 5/2016
UF College of Medicine University Scholars Program for Undergraduates \$2,250 total
Assessing radiation toxicity to the heart in breast cancer patients receiving radiation to the chest wall

In this project I will analyze cardiac MR data sets of breast cancer patients treated by Dr. Julie Bradley at the UF Proton Therapy Institute to compare radiation effects on heart wall function between patients treated with standard X-rays versus proton beams.

O'Dell role: Faculty Mentor (0% salary support)

(Matthew Wilhelm)

6/1/2014 – 5/2015

UF College of Medicine University Scholars Program for Undergraduates

\$2,250 total

Quantifying Lung Vascular Response to Radiation

My hypothesis is that radiation damage to pulmonary vascular tissue can be quantified over time as pruning of the vascular tree that scales with regional radiation dose. Under this award, I aim to complete 3-4 full patients' CT scans per week, including follow-ups. For each patient with their follow-ups, approximately one and a half hours will be needed. I will present my updates every month to the lab group and Dr. O'Dell. I will be overseen by Dr. O'Dell and UF medical student Dustin Begosh-Mayne throughout the entirety of the semester.

O'Dell role: Faculty Mentor (0% salary support)

(Heather Lacy)

6/1/2014 – 5/2015

UF College of Medicine University Scholars Program for Undergraduates

\$2,250 total

Quantifying Arterial Pruning from Birth to Adulthood in children born prematurely

My hypothesis is that those who are born prematurely and develop chronic PAH will have a progression in the amount of occlusion and pruning away of the arterioles as they grow and develop further into adulthood. For the project year I will analyze 30-40 chest CT scans of premature patients. Under the supervision of Dr. O'Dell I will make charts that correlate vascular pruning with the developmental stage of the patient. I will present my final findings through the University Research Undergraduate Symposium and at least one national conference.

O'Dell role: Faculty Mentor (0% salary support)

(Roshini Pudhucode)

6/1/2014 – 5/30/2015

\$1,000

UF/Howard Hughes Science for Live Scholarship.

Using a database consisting of over 300 pediatric patient data, we plan to isolate approximately 20-30 infants and 10-15 controls and their respective sequential data in the form of MRIs and/or CT scans. The available data will include images over time in years, so we can accurately assess lung vessel development throughout childhood. Our goal is to compile graphical models regarding vascular development and age to aid prospective clinical assessments. If the resources are accessible, we also hope to determine when an infant's pulmonary systems are sufficiently established and stable in order to breathe without a ventilator. Student was awarded membership into the program, with funds for travel.

O'Dell role: Faculty Mentor (0% salary support)

(D. Begosh-Mayne)

6/17/2013-8/16/2013

Medical Student Summer Research Program \$2,000 for summer 2013

Quantifying long-term human lung tissue radiation dose-response in humans

O'Dell role: Faculty Mentor

(Odedina)

2/15/2012 - 2/14/2014

DOD Prostate Cancer Research Program (PCRP) W81XWH-12-1-0083 \$182,650 total over 2 years

The Florida Prostate Cancer Research Training Opportunities for Outstanding Leaders (ReTOOL)

Program: Creating Opportunities for Minority HBCU Students

The ReTOOL program is a partnership program between University of Florida (UF) and Florida A&M University (FAMU) to address the lack of well-trained minority prostate cancer scientists in Florida. Within

the next two years, we will train at least 10 FAMU minority students to create opportunities and promote prostate cancer research careers for these students in the areas of basic, behavioral, biomedical and clinical sciences.

O'Dell role: Co-investigator (2.5% effort through project year 2)

(Jacob)

10/1/2011-09/31/2015

Univ. of Iowa/American Cancer Society Research Scholar Grant

\$720k total over 4 years

(\$150k/yr dir)

Improved MR spectroscopic imaging for glioma treatment planning

We propose a novel algorithm to directly estimate the metabolite concentrations from MRSI data, thereby improving the robustness and sensitivity to J-coupled metabolites. We will test the utility of the J-coupled metabolites in determining the microscopic spread of brain cancer, with the focus of using the information for radiation treatment planning.

O'Dell: Co-investigator

(D. Crabb)

07/01/2012-8/30/2012

Medical Student Research Program Summer Research Program Summer \$4,000 for Summer 2012

Computer-aided Detection of Polyps in CT Colonography

A novel 3D computer-aided detection system was developed in-house and demonstrated to be particularly efficacious for lung and brain metastases. Our hypothesis was that with appropriate customization this system would achieve detection outcomes with CTC data that are comparable to those currently experienced in optical colonoscopy.

O'Dell role: Faculty Mentor

(Rosenweig)

10/01/2010-09/30/2011

Varian Medical Systems

Image-based Organ Growth Curves from Birth through Childhood

O'Dell role: Co-Investigator

(Okunieff)

11/16/2009-01/01/2011

BAA BARDA 09-36

Point of Care or High-throughput Biological Assays for Determining Absorbed Ionizing Radiation Dose (Biodosimetry) after radiological and nuclear events.

O'Dell role: Co-Investigator

(O'Dell)

10/01/2009-09/30/2010

Varian Medical Systems

Integration of Brain Tumor Migration Model into the Varian Eclipse Treatment Planning System

O'Dell role: PI

(O'Dell)

06/01/2008-05/31/2009

Clinical and Translational Sciences Institute

Scientific Conference on Stereotactic Body Radiation Therapy

This 2-day conference on June 13-14, 2008, brought together world-renowned experts in the field to share ideas, present innovative research and clinical findings, and work towards furthering collaborations between researchers, clinicians, and industry. 25+ presenters and over 100 attendees participated.

O'Dell role: PI

(Jacob)

06/01/2008-05/31/2009

Clinical and Translational Sciences Institute pilot study program

MR Spectroscopic Imaging of Brain Cancer Progression

The main objective of this proposal was to further develop MRS technology with the focus on brain cancer progression and treatment planning. The specific aims were: (a) to develop a joint reconstruction and quantification algorithm, thus further improving robustness and reducing artifacts; (b) to optimize the multi-parametric sequence to enhance the sensitivity to metabolites crucial in brain cancer; (c) to study brain cancer progression and effectiveness of therapy.

(O'Dell)

08/01/2007-11/01/2008

Carestream (formerly Kodak Health Imaging)

Target Detection for Radiation Oncology

Dr. O'Dell's lab obtained and evaluated corresponding patient radiographs and CT image datasets and assisted in the analysis of Carestream's tumor detection methods.

O'Dell role: PI

(Krishnan, O'Dell)

08/01/2007-07/30/2008

Clinical and Translational Sciences Institute pilot study program

Modeling Brain Cancer Dispersion for SRT using MR Diffusion-weighted Imaging

This pilot proposal funded the procurement and care of animals for the engraftment of a native rat infiltrative glioma cell line to optimize our computational model of cell migration.

O'Dell role: Trainee Sponsor/ Co-PI

(Davis)

06/01/2007-05/30/2009

Gateway for Cancer Treatment Research Foundation

Predicting Brain Tumor Recurrence from MR Spectroscopy and Diffusion Tensor Imaging

Our hypothesis was that brain cancer cells spread preferentially via a diffusion-like process that can be predicted by magnetic resonance (MR) diffusion-tensor imaging (DTI) and computational models of cell migration. We also tested whether MRS can be used to identify existing microinfiltration of cancer. The goal was to apply MRS and DTI to develop appropriate non-symmetric margins for radiation treatment of malignant brain tumors.

O'Dell role: Co-Investigator

(O'Dell)

07/01/2006-06/31/2009

NIH NCI R01 1R01CA109393-01A2

Quantifying Human Lung Tissue Dose Response Relationship

This project aimed to develop a novel tool for quantifying the radiation dose-response relationship for normal lung tissue in human subjects treated for metastatic lung lesions using conformal, high-dose stereotactic radiotherapy. This research involved the development of image-processing methods for extracting radiographic changes in post-treatment subjects and correlating with radiation dose profiles retrieved from treatment planning systems.

O'Dell role: PI

(O'Dell)

07/01/2002-07/01/2006

American Cancer Society Research Scholar Grants for Beginning Investigators

Gated External-beam Radiotherapy of Isolated Tumors in the Lung and Liver

This project used magnetic resonance imaging of liver and lung tumors in patients to establish the range of tumor motion during the respiratory cycle and to determine the reproducibility of tumor position over multiple end-expiration breath-holds. This information was used to develop analysis tools and motion phantoms to test the feasibility of performing gated radiotherapy of internal tumors, obtain physiologic

measurements of respiratory-derived tumor motion, and establish the performance characteristics required of a real-time gating system.

O'Dell role: PI

POSITIONS AND EMPLOYMENT

2001-2004	Assistant Professor , Secondary Appointment, University of Rochester Research Department of Biomedical Engineering, Rochester, New York
2001-2004	Research Assistant Professor , University of Rochester Department of Radiation Oncology, Rochester, New York
2004-2010	Assistant Professor , Secondary Appointment, University of Rochester Department of Biomedical Engineering, Rochester, New York
2004-2010	Assistant Professor , University of Rochester Department of Radiation Oncology, Rochester, New York
2010-2012	Adjunct Assistant Professor , University of Rochester Department of Radiation Oncology, Rochester, New York
2010-2012	Adjunct Assistant Professor , Secondary Appointment, University of Rochester Department of Biomedical Engineering, Rochester, New York
2010-2020	Assistant Professor , University of Florida Department of Radiation Oncology, Gainesville, Florida
2010-2020	Assistant Professor , Graduate Faculty, University of Florida Department of Biomedical Engineering, Gainesville, Florida
2020-present	Associate Professor , University of Florida Department of Radiation Oncology, Gainesville, Florida
2020-present	Associate Professor , Graduate Faculty, University of Florida Department of Biomedical Engineering, Gainesville, Florida

PROFESSIONAL SERVICE

2019-present	Senator, UF Faculty Senate
2016-present	Board of Directors member, Survivors4Research cancer research advocacy organization.
2014-present	Member of CTSI / MBI Human Imaging Core Scientific Advisory Committee
2014-2017	Senator, UF Faculty Senate
October 2014	Session Moderator (Imaging Applications) for Biomedical Engineering Society national meeting, Oct. 22-25, 2014, San Antonio TX
2013-present	member, Scientific Committee of the Florida Breast Cancer Foundation.
2013-present	UF BME Medical Physics Committee Member,
2012-present	Abstract reviewer for national Biomedical Engineering Society, Imaging Technology section.
2012-2018	UF Faculty Senate/Presidential Committee: Recreational Sports Board
2011-2012	UF CTSI Imaging Core Director Search Committee
2008-2009	President, Upstate New York Chapter of the American Assoc. of Physics in Medicine
2007-2008	Department of Radiation Oncology Strategic Planning Committee
2007-2008	President, SBRT Scientific Conference Organizing Committee (June 13-14, 2008)
2006-present	Peer Review Committee, American Cancer Society, Clinical Cancer Research & Epidemiology (over 70 grants reviewed as primary or secondary reviewer every 6 months)
2004-07, 09-10	Department of Biomedical Engineering Graduate Committee, URM
2003-2005	URMC Web Development Committee
2001-2010	Department of Radiation Oncology Webmaster
1995-present	Journal Reviewer: <i>Medical Physics; Radiology; Magnetic Resonance in Medicine;</i>

International Journal of Radiation Oncology Biology Physics; IEEE Transactions on Medical Imaging; IEEE Trans. on Biomedical Engineering; Journal of Biomedical Engineering; Nature-Scientific Reports (recently as 11/6/2018)

MEMBERSHIPS

2017-present	American Society of Thoracic Radiation Oncology (ASTRO)
2014-present	Radiation Research Society (RRS)
2010-present	Biomedical Engineering Society (BMES)
2000-present	American Association of Physicists in Medicine (AAPM)
1996-2001	American Society of Mechanical Engineers
1994-2001, 2012	Institution of Electrical and Electronic Engineers (SPIE)
1992-present	Society of Magnetic Resonance (SMRM, ISMRM)

EXTRACURRICULAR

2012-2014	Gainesville Community Concert Band
2003-2010	UR BME Jazz Band Director/member
2003-2004	UR Men's Rugby Club Faculty Advisor
2001-2007	BME/Radonc Intramural sport teams manager & player: softball, soccer, volleyball
1995-1996	UCSD Jazz Ensemble
1991-1995	Co-founder, Manager & Captain Johns Hopkins Alumni Assoc. Soccer Club
1990-1995	Johns Hopkins University Jazz Ensemble

PUBLICATIONS

1. **Begosh-Mayne D, Toffel S, Siva Kumar S, Okunieff P, O'Dell W.** A Comparison of Dose-Response Characteristics of Four NTCP Models: Using a Novel CT-based Radiomic Method to Quantify Radiation-Induced Lung Density Changes. *Nature Scientific Reports*, 2020;10(1):10559. doi:10.1038/s41598-020-67499-0
2. **Saini A, Siva Kumar S, O'Dell W.** Measuring Lung Vessel Tree Growth During Development In Pediatric Patients. *University of Florida Journal of Undergraduate Research* 2020;21.2 doi: [10.32473/ufjur.v21i2.108563](https://doi.org/10.32473/ufjur.v21i2.108563)
3. **O'Dell, W.** Accuracy of left ventricular cavity volume and ejection fraction for conventional estimation methods and 3D surface fitting. *J Amer Heart Assoc.* 2019;8:e009124 doi: [10.1161/JAHA.118.009124](https://doi.org/10.1161/JAHA.118.009124).
4. **O'Dell W, Takita C, Casey-Sawicki K, Daily K, Heldermon C, Okunieff O.** Projected clinical benefit of surveillance imaging for early detection and treatment of breast cancer metastases. *The Breast Journal*, 2018;00:1–5. doi:10.1111/tbj.13153
5. **O'Dell W, Gormaley A, Prida D.** Validation of the Gatortail Method for Accurate Sizing of Pulmonary Vessels from 3D Medical Images. *Med Phys.* 2017;44(12). doi:[10.1002/mp.12580](https://doi.org/10.1002/mp.12580).
6. **Parekh S, Su LM, O'Dell W.** Anatomic Modeling and Visualization of the Kidney and its Associated Major Vessels in Patients with Kidney Cancer. *UF Journal of Undergraduate Research*, Dec. 16, 2017
7. **Yang S, Zhang M, Chen C, Cao Y, Tian Y, Guo Y, Zhang B, Wang X, Yin L, Zhang Z, O'Dell W, Okunieff P, Zhang L.** Triptolide mitigates radiation-induced pulmonary fibrosis. *Radiat Res.* 2015 Nov;184(5):509-17. doi: 10.1667/RR13831.1.
8. **O'Dell WG, Ambrosini R, Krishnan A, Davis D, Jacob M.** Detection and Characterization of Brain Tumor. *Computer-aided Detection and Diagnosis in Medical Imaging*. Li Q and Nishikawa R (Eds.), Taylor and Francis, March 2015, by CRC Press, ISBN 9781439871768 - CAT# K13289

9. **O'Dell W.G**, Method for accurate sizing of pulmonary vessels from 3D medical images. *Proc. SPIE 9413, Medical Imaging 2015: Image Processing, 94132J (March 20, 2015)*; doi:[10.1117/12.2082644](https://doi.org/10.1117/12.2082644)
10. Murff D, Co-Vu J, **O'Dell W.G.**. Generating patient-specific pulmonary vascular models for surgical planning. *Proc. SPIE 9415, Medical Imaging 2015: Image-Guided Procedures, Robotic Interventions, and Modeling, 94150O (March 18, 2015)*; doi: [10.1117/12.2082647](https://doi.org/10.1117/12.2082647)
11. **O'Dell, W.G**, Govindarajan, S.T., Salgia, A., Hegde, S., Prabhakaran, S., Finol, E., White, R.J. Traversing and labeling interconnected vascular tree structures from 3D medical images. *Proc. SPIE 9034, Medical Imaging 2014: Image Processing, 90343C (March 21, 2014)*; doi:[10.1117/12.2044140](https://doi.org/10.1117/12.2044140)
12. Ray S, **O'Dell WG**, Barmpoutis A. Perpendicular Fiber Tracking for Neural Fiber Bundle Analysis using Diffusion MRI. *Int J Bioinform Res Appl. 2014;10(1):75-92. doi: 10.1504/IJBRA.2014.058779.*
13. Kheifets VO, O'Dell WG, Smith T, Reilly Jr. JJ, Finol EA
Computational Hemodynamics of the Pulmonary Circulation – A Focus on Pulmonary Hypertension *J. Biomedical Engineering, 2013;135(6):061011–061011*
14. Okunieff P, **O'Dell WG**, Zhang M, Zhang L, Maguire D. Tumor Oxygen Measurements and Personalized Medicine. *Advances in Experimental Medicine and Biology, 765:195-201, 2013.*
15. **O'Dell WG**. Automatic segmentation of tumor-laden lung volumes from the LIDC database. *Proc. SPIE 8315, Medical Imaging 2012: Computer-Aided Diagnosis, 831531 (23 February 2012)*; doi: [10.1117/12.911379](https://doi.org/10.1117/12.911379).
16. Ambrosini R, **O'Dell WG**. Realistic simulated lung nodule dataset for testing CAD detection and sizing. *Proc. SPIE 7624, Medical Imaging 2010: Computer-Aided Diagnosis, 76242X (9 March 2010)*; doi: [10.1117/12.843996](https://doi.org/10.1117/12.843996)
17. Ambrosini R, Wang P, **O'Dell WG**. Computer-Aided Detection of Metastatic Brain Tumors Using Automated 3-D Template Matching. *Journal of Magnetic Resonance Imaging, (Jan) 31(1):85-93, 2010.*
18. Ambrosini R, Wang P, **O'Dell WG**. Volume change determination of metastatic lung tumors in CT images using 3-D template matching. *Proc. SPIE 7260, Medical Imaging 2009: Computer-Aided Diagnosis, 726035 (28 February 2009)*; doi: [10.1117/12.813593](https://doi.org/10.1117/12.813593)
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22. **O'Dell WG**, Wang P, Liu H, Fuller D, Schell MC, Okunieff P. In-vivo Quantification of Human Lung Dose Response relationship. *Proc. SPIE 6511, Medical Imaging 2007: Physiology, Function, and Structure from Medical Images, 65110X (March 29, 2007)*; doi: [10.1117/12.710585](https://doi.org/10.1117/12.710585)
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25. Okunieff P, Schell MC, Ruo R, Hale ER, **O'Dell WG**, Pilcher W. Long-term management of patients with multiple brain metastases after shaped beam radiosurgery. Case report and review of the literature. *Journal of Neurosurgery, (November) 101(Suppl 3):406-12, 2004.*
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PRESENTATIONS AT NATIONAL CONFERENCES

1. Siva Kumar S, Bradley J, Terracino B, Waler A, Zeng E, Klassen C, Rutenberg M, Mendenhall N, Mailhot R, **O'Dell W**. Proton therapy preserves acute left ventricular ejection fraction relative to conventional X-ray therapy in breast cancer. *Refereed poster presentation* at the American Heart Association Annual Conference. Philadelphia PA: Nov. 16, 2019.
2. Siva Kumar S, Bradley J, Liang X, Lockney N, Mailhot R, Mendenhall NP, Pembroke M, Okunieff P, **O'Dell W**. Evaluation of radiographic pulmonary changes on serial chest CTs after radiation therapy for breast cancer: a comparison of proton vs. photon therapy. *Refereed poster presentation* at the 65th Annual Meeting of the Radiation Research Society. San Diego, CA: Nov. 2, 2019.
3. Abraham S, Siva Kumar S, **O' Dell W**. Evaluating Variability in the Measurement of Global Longitudinal Strain with Slice Orientation. *Refereed poster presentation* at the 2019 Biomedical Engineering Society Annual Meeting. Philadelphia, PA: Oct. 16, 2019.
4. Ravuri S, Siva Kumar S, White RJ, Haight D, **O'Dell WG**. Modeling and quantifying vascular structures in experimental rat lungs. *Refereed poster presentation* at the 2019 Biomedical Engineering Society Annual Meeting. Philadelphia, PA: Oct. 16, 2019.
5. **O'Dell W**, Siva Kumar S, Terracino B, Bradley J. Proton therapy preserves acute left ventricular ejection fraction relative to conventional X-ray therapy in breast cancer. *Invited oral presentation* at the Florida Chapter of the American Association of Physicists in Medicine (FL-AAPM), Fall 2019 meeting. St. Petersburg, FL: Sept. 27, 2019.

6. Siva Kumar S^g, Bradley J, Terracino B^g, Waler A^g, Zeng E^g, Klassen C, Rutenberg M, Mendenhall N, Mailhot R, **O'Dell W**. Proton therapy preserves acute left ventricular ejection fraction relative to conventional X-ray therapy in breast cancer. *Refereed poster presentation* at the Global Cardio-Oncology Summit/Canadian Cardiac Oncology Network Conference. Montreal, CA: April 26, 2019.
7. Saini A^g, Siva Kumar S^g, **O'Dell W**. Measuring lung vessel tree growth during development in pediatric patients. *Refereed poster presentation* at the Undergraduate Research Series, 2018 Biomedical Engineering Society Annual Meeting. Atlanta GA: Oct. 18, 2018.
8. Siva Kumar S^g, Waler A^g, Bradley J, Klassen C, **O'Dell W**. Computing regional myocardial radiation-dose response in left sided breast cancer patients. *Refereed poster presentation* at Anita B.org/Grace Hopper Celebration. Houston, TX: Sept. 27, 2018.
9. **Terracino B^g, O'Dell W**. Accuracy of left ventricular cavity volume and ejection fraction for conventional estimation methods and 3D surface fitting. *Refereed oral presentation* at the 60th Annual Meeting of the American Association of Physicists in Medicine (AAPM). Nashville, TN: July 30, 2018.
10. O'Dell W, Siva Kumar S, Klassen C, Bradley J. *Quantifying sub-clinical cardiac radiation toxicity in breast cancer patients*. Poster presentation at 63rd Annual Meeting of the Radiation Research Society, Cancun, Mexico, October 15-18, 2017
11. Siva Kumar S, Waler A, Bradley J, Klassen C, O'Dell W. *Determining Radiation-Induced Subclinical Cardiac Toxicity in Left Sided Breast Cancer Patients using Magnetic Resonance Imaging with Tagging* Poster presentation at the 2017 Biomedical Engineering Society (BMES) Annual Meeting, October 11-14, 2017 in Phoenix, AZ
12. Gormaley A, Prida D, **O'Dell W**. *Validation Of Pulmonary Vessel Sizing From 3D Medical Images*. Poster presentation at the 2017 Biomedical Engineering Society (BMES) Annual Meeting, October 11-14, 2017 in Phoenix, AZ
13. **O'Dell W**, Takita C, Casey-Sawicki K, Daily K, Heldermon C, Okunieff P. *Radiation risk versus projected clinical benefit of surveillance imaging for early detection and treatment of breast cancer metastases*, Poster presentation at 2017 Annual Meeting of the American Society for Radiation Oncology (ASTRO), September 25, 2017, at the San Diego Convention Center, San Diego, CA. ***International Journal of Radiation Oncology • Biology • Physics* 2017;99:E38.**
DOI: <http://dx.doi.org/10.1016/j.ijrobp.2017.06.681>
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15. Wilhelm M., Begosh-Mayne D., **O'Dell W**. *Pulmonary vascular pruning in response to radiation* Radiation Research Society 60th Annual Meeting, Sept. 22, 2014 (poster)
16. Williams, A., **O'Dell, W**. *Establishing the Efficacy of Tangible Prostate Phantoms to Improve Screening Compliance of African American Men/* Oral presentation at the Florida – Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP), Jacksonville, FL, Feb, 13-15, 2014
17. Okunieff P, **O'Dell WG** *Is There a Subset of Women with Metastatic Breast Cancer that are Curable?* 19th Annual Multidisciplinary Symposium on Breast Disease, Amelia Island, FL Feb 13-16, 2014
18. O'Dell, W.G.¹, Govindarajan, S.T., Salgia, A., Hegde, S., Prabhakaran, S., Finol, E.A., White, R.J. *Method for traversing and labeling complex vascular tree structures from 3D medical images: description, validation and application*. SPIE Medical Imaging Conference, San Diego CA Feb. 2014
19. **O'Dell W**, Prabhakaran S, Hegde, S. *Quantification of 3D Pulmonary Vascular Morphology in Pediatric Patients with Pulmonary Vascular Disease*. Oral presentation at the National BMES Scientific Meeting and Exhibition, Seattle WA, September 2013
20. Prabhakaran S, Vidyasagar S, Yin L, Rejeesh MR, Zhang M, **O'Dell W**, AbuHasan M. *Selective Amino Acid Mixture Decreases Chronic Lung Complications In Irradiated Mice*. #43780. American Thoracic Society International Conference, Philadelphia PA, May 2013.

21. **O'Dell W**, Okunieff P, Daily K, Helderman C, Dagan R, Huang I-C, Shifrin R, Davis D, and Milano M. *Proactive, surveillance imaging for early detection and treatment of breast cancer metastases in high-risk patients*. The 18th Annual Multidisciplinary Symposium on Breast Disease, Amelia Island, FL, Feb 14-17, 2013.
22. Salgia A, Govindarajan ST, Haight D, White RJ, **O'Dell W**. *Automatic quantification from CT scans of morphological changes in pulmonary arterial vasculature in pulmonary artery hypertension*. BMES Scientific Meeting and Exhibition, Atlanta GA, Oct 2012.
23. Ray S, **O'Dell W**, Barmpoutis A. *Estimation of fiber bundle sections for interactive neural fiber analysis*. 26th International Congress on Computer Assisted Radiology and Surgery, Pisa Italy, June 2012
24. Ray S, **O'Dell W**, Barmpoutis A. *Perpendicular Neural Fiber Tracking*. International Conference on Computational Biomedicine, Gainesville FL, March 2012
25. **O'Dell WG**. *Automatic segmentation of tumor-laden lung volumes from the LIDC database*. SPIE Medical Imaging Conference, San Diego CA, Feb. 2012.
26. Govindarajan ST, Chandrasekharan S, **O'Dell WG**. *Automatic Segmentation of Blood Vessel in the presence of Fibrosis in Volumetric Lung CT Images*. BMES Scientific Meeting and Exhibition, Hartford Conn, Oct 2011.
27. Vijaygopal P, Yin L, Mohankumar S, Zhang M, **O'Dell W**, Zhang L, Okunieff P, Vidyasagar S. *Paracellular ion selectivity parallels loss of mucosal barrier following irradiation*. ASTRO's 53rd Annual Meeting, Miami Beach FL, Oct. 2011.
28. **O'Dell WG**. *Evaluation of maximum likelihood ground truth and performance of readers stratified by aggressiveness from the Lung Image Database Consortium (LIDC) study*. AAPM Scientific Meeting (WE-G-110-5), Vancouver BC, CA, Aug. 2011.
29. Raman D, Krishnan A, N'Dive S, Kennedy S, Olschowka J, Davis D, **O'Dell WG**. *Detecting region of recurrence of brain tumors by tracking the movement of brain tumor cells on a rat model using MR-Diffusion Tensor Imaging*. BMES Scientific Meeting and Exhibition (PS-8A-199), Pittsburgh PA, Oct. 2009.
30. Chaudhuri S, Krishnan A, Raman D, Ambrosini R, Davis D, **O'Dell WG**. *Automatic Segmentation of Ventricles & Outer Brain Contour in Human Brain MR Images using Level Sets*. BMES Scientific Meeting and Exhibition (PS-8B-106), Pittsburgh PA, Oct. 2009.
31. Ambrosini R, **O'Dell WG**. *MR Brain 3D Contouring Using Atlas Matching and Snake Edge Detection Combined Approach*. 17th ISMRM Scientific Meeting and Exhibition, Honolulu HI, [#2894] April 2009.
32. Krishnan AP, Davis DD, Okunieff P, **O'Dell WG**. *Random Walk Model for Predicting Patterns of Microscopic Glioma Spread Using DTI: A Prospective Study*. 17th ISMRM Scientific Meeting and Exhibition, Honolulu HI, [#142] April 2009.
33. Ambrosini R, Wang P, **O'Dell WG**. *Computer-Aided Detection of Metastatic Brain Tumors Using Automated 3-D Template Matching*. 16th ISMRM Scientific Meeting and Exhibition, Toronto CA, May 2008.
34. Krishnan AP, Davis DD, Okunieff P, **O'Dell WG**. *Random walk models based on DTI for determining the microscopic spread of gliomas*. 5th IEEE International Symposium on Biomedical Imaging, Paris FR, June 2008.
35. Krishnan AP, Davis DD, Okunieff P, **O'Dell WG**. *Preliminary results of the effects of higher order reconstruction on Diffusion MRI data on our predictive model for tumor recurrence*. 16th Annual ISMRM Scientific Meeting (#5545), Toronto CA, May 2008.
36. Wang P, Conover D, Ning R, **O'Dell WG**. *3D Computer-Aided Detection of Masses and Micro-Calcifications From Cone Beam CT Scans: A Breast Phantom Study*. 49th Annual AAPM Meeting (SU-FF-I-1), Minneapolis MN, July 2007.
37. Krishnan AP, Asher MI, Fuller D, Davis DD, Okunieff P, **O'Dell WG**. *Evidence That Diffusion Tensor Imaging Predicts the Natural History of Regional Recurrence in Patients Irradiated Conformally for Primary Brain Tumors*. 15th Annual ISMRM Scientific Meeting (#345), Berlin GER, June 2007.
38. **O'Dell WG**, Wang P, Liu H, Fuller D, Schell MC, Okunieff P. *Non-invasive Quantification of the Time Course of Lung Radiation Dose Response in Humans*. Proceedings of SPIE Medical Imaging [#6511-32], San Diego CA, Feb. 2007.
39. Krishnan AP, Asher MI, Fuller D, Davis DD, Okunieff P, **O'Dell WG**. *Patterns of Brain Tumor Recurrence Predicted From DTI Tractography*. 48th Annual AAPM Meeting (TU-C-330A-2), Orlando FL, July 2006.

40. Podder TK, Clark DP, Sherman J, Fuller D, Rubins DJ, Ng WS, Messing EM, **O'Dell WG**, Strang JG, Zhang YD, Yu Y. *Robotic Needle Insertion in Soft Material Phantoms: An Evaluation of Properties of Commonly used Soft Materials*. 12th IEEE International Conference on Biomedical Engineering (ICBME), Dec. 2005.
41. Podder TK, Clark DP, Fuller D, Messing EM, Rubins DJ, Strang JG, **O'Dell WG**, Zhang YD, Ng WS, Yu Y. *Effects of Tip Geometry of Surgical Needles: An Assessment of Force-Torque and Deflection*. Proceedings of the 3rd European Medical & Biological Engineering Conf. (EMBEC), pp. 1641-1644, Prague, Czech Republic, Nov. 20-25, 2005.
42. Krishnan AP and **O'Dell WG**. *High-order 3D FEM of Prostate Needle Insertion Forces*. 14th IEEE International Workshop on Robot and Human Interactive Communication (RO-MAN), Aug. 2005.
43. Wang P, Fuller D, **O'Dell WG**. *Evaluation of Computer Aided Diagnosis on Thin-slice Pulmonary CT Images*. 47th Annual AAPM Meeting (SU-FF-I-3), Seattle WA, July 2005.
44. Ambrosini R, Wang P, Victor J, Sobe N, **O'Dell WG**. *Automatic Detection and Sizing of Metastatic Brain Tumors Using 3D Template Matching*. 47th Annual AAPM Meeting (SU-FF-I-2), Seattle WA, July 2005.
45. Schell MC, Clark D, Reynolds D, Liu H, **O'Dell WG**, Yu Y, Okunieff P. *Impact of tissue heterogeneities upon dose delivery to lung lesions and comparison of BrainSCAN treatment planning system dose calculations* 47th Annual AAPM Meeting (SU-FF-T-405), Seattle WA, July 2005.
46. Wang Z, **O'Dell WG**. *Non-Rigid Registration of 2D Lung CT Images Using a Deformable High-Order Finite Element Mesh* 46th Annual AAPM Meeting (TH-C-315-3), Pittsburgh PA, July 2004.
47. Wang P, **O'Dell WG**. *Automated Detection of Juxta-Pleural Lung Nodules in Chest CT Using Lung Contour Corrected by Anatomic Landmarks*. 46th Annual AAPM Meeting (TU-E-315-2), Pittsburgh PA, July 2004.
48. **O'Dell WG**, Schell MC, Okunieff P. *Sombrero Dose Distribution for Correction of Tumor Positioning Variability During Fractionated Extracranial Radiotherapy* 46th Annual AAPM Meeting (MO-D-PRB-9), Pittsburgh PA, July 2004.
49. Krishnan AP, Schell MC, Yu Y, **O'Dell WG**. *3D FEM of the Prostate to Predict Deformation During Brachytherapy Needle Insertion*. 46th Annual AAPM Meeting (SU-GG-PDS-15), Pittsburgh PA, July 2004.
50. Schell MC, Liu H, Ruo R, **O'Dell WG**. *Dose Perturbation by Tissue Heterogeneities and Comparison with the BrainSCAN Treatment Planning System Calculations*. 46th Annual AAPM Meeting (PO-T-138), Pittsburgh PA, July 2004.
51. Liu H, Schell MC, Yu Y, **O'Dell WG**. *Accurate Stereotaxis with the BrainLAB ExacTrac System*. 46th Annual AAPM Meeting (PO-T-47), Pittsburgh PA, July 2004.
52. Lei F, Ng WS, Liu H, **O'Dell W**, Rubens D, Yu Y. *Bouquet brachytherapy: the feasibility and optimization of conically spaced implants*. Radiotherapy & Oncology 71:S85-6, 2004 (American Brachytherapy Society Conference, Barcelona Spain)
53. Izbudak I, **O'Dell WG**, Amado L, Boston RC, Kraitchman DL. *Low Dose Dobutamine Stress 3D Tagged and First-Pass Contrast-enhanced Magnetic Resonance Imaging for Regional Detection of Stunned Myocardium*. 7th Annual SCMR Meeting, Barcelona, Spain, Feb. 2004.
54. Liu H, Yu Y, Schell MC, **O'Dell WG**, Okunieff P. *Feasibility Test of Prospective Tracking of Respiration Signals for Breathing Compensated or Gated Radiotherapy*. 25th Annual Conference of IEEE EMBS (#750), Cancun, Mexico, Sept. 2003.
55. **O'Dell WG**, Wang P, Murdock PC, Narla D, Liu H, Schell MC, Okunieff P. *Normal Tissue Dose-Response Relationship in Lung High-Dose SRS Patients*. 45th Annual AAPM Meeting (TU-D20A-3), San Diego CA, Aug. 2003.
56. Wang P, DeNunzio A, **O'Dell WG**. *Automatic Detection of Metastatic Lung Tumors On Chest CT Using 3D Template Matching*. 45th Annual AAPM Meeting (TH-C25A-5), San Diego CA, Aug. 2003.
57. Liu H, Yu Y, **O'Dell WG**, Schell MC. *A Prospective Tracking Algorithm for Motion Compensation Radiotherapy*. 45th Annual AAPM Meeting (PO-T-245), San Diego CA, Aug. 2003.
58. Liu H, Yu Y, **O'Dell WG**, Schell MC. *Analysis of Postimplant Seed Displacement Errors Using a Soft-assign Point Match Algorithm*. 45th Annual AAPM Meeting (SU-DD-PDS-4), San Diego CA, Aug. 2003.
59. Schell MC, McNutt T, Ruo R, Ezzell G, Murdock PC, Narla D, **O'Dell WG**. *Tissue Heterogeneity Effects On Radiation Dose To Small Lung Lesions With Extra-Cranial Radiosurgery*. 45th Annual AAPM Meeting (SU-GG-PDS-35), San Diego CA, Aug. 2003.

60. **O'Dell WG**, Reynolds D, Schell MC, Okunieff P. *Dose Broadening Due to Target Position Variability during Fractionated Breath-held Radiation Therapy*. 44th Annual AAPM Meeting (SU-DD-EXH-22), Montreal QC, July 2002. *Medical Physics* 29.6:1202, 2002.
61. **O'Dell WG**, Schell MC, Okunieff P. *Margin Optimization for Fractionated Breath-hold Radiation Therapy*. 44th Annual AAPM Meeting (SU-DD-EXH-57), Montreal QC, July 2002. *Medical Physics* 29.6:1210, 2002.
62. Liu H, Yu Y, Ruo R, Okunieff P, **O'Dell WG**, Schell MC. *Optimization of Fiducial Marker Configurations in Image-Guided Radiotherapy*. 44th Annual AAPM Meeting (SU-HH-EXH-9), Montreal QC, July 2002. *Medical Physics* 29.6:1240, 2002.
63. Lui H, Ruo R, Schell MC, Okunieff P, **O'Dell WG**, Yu Y. *Verification of optimal fiducial marker configurations in image-guided radiotherapy*. 44th Annual AAPM Meeting (SU-HH-EXH-11), Montreal QC, July 2002. *Medical Physics* 29.6:1241, 2002.
64. Schell MC, Liu H, **O'Dell WG**, Maurer CR Jr., Okunieff P, Reynolds D, Ruo R, Yu Y. *Analysis of Targeting Accuracy of a Stereotactic Camera system for the Radiosurgery of Extra-Cranial Lesions*. 44th Annual AAPM Meeting (TH-C-517B-11), Montreal QC, July 2002. *Medical Physics* 29.6:1369, 2002.
65. **O'Dell WG**, Maurer CR Jr., Schell MC, Sandhu AS, Okunieff, P. *Reproducibility of Internal Target Positions for Breath-held Conformal External-beam Radiotherapy*. 43rd Annual AAPM Meeting, Salt Lake City UT, July 2001. *Medical Physics* 28(6):1196, 2001.
66. Schell MC, Maurer CR Jr., **O'Dell WG**, Rohlfing T, Ananthamoorthy R, Sandhu AS, Okunieff P. *Evaluation of Novalis ExacTrac Patient Positioning System and Application to Treatment of Lung and Liver Lesions*. 43rd Annual AAPM Meeting, Salt Lake City UT, July 2001. *Medical Physics* 28.6:1278, 2001.
67. Rohlfing T, Maurer CR Jr., **O'Dell WG**, Schell M, Zhong J. *Modeling Liver Motion and Deformation During the Respiratory Cycle Using Intensity-Based Free-Form Registration of Gated MR Images*. Proceedings of SPIE, San Diego CA, Feb. 2001.
68. **O'Dell W**, McCulloch A. *Determination of material properties for the passively filling canine left ventricle*. Proceedings of the Biomedical Engineering Society, San Diego CA, 1998.
69. **O'Dell W**, McCulloch A. *A Novel Numerical Formulation for Modeling Tissue Compressibility*. Proceedings of the American Society of Mechanical Engineering, Anaheim CA, 1998.
70. **O'Dell W**, McVeigh E. *A Modal Description of LV Motion During Ejection*. Proceedings of SMR, 1998 .
71. **O'Dell W**, Hunter W, McVeigh E, McCulloch A. *Determination of material properties for the passively filling canine left ventricle*. Proceedings of the Biomedical Engineering Society, San Diego CA, S-27:#162, 1997.
72. **O'Dell W**, Van Wedeen, Reese TG, McCulloch A. *Histological Validation of MR Diffusion Imaging for Myocardial Fiber Architecture Analysis*. Proceedings of SMR, 1997.
73. **O'Dell W**, Moore C, McVeigh E. *Measurement of Tissue Compressibility Using MR Tagging*. Proceedings of the American Society of Mechanical Engineering, Atlanta GA, 1996.
74. **O'Dell W**, Moore C, Zerhouni E, McVeigh E. *Spatial Resolution of 3D Cardiac Tagging Reconstruction: Impulse Response Analysis for Displacement Field-Fitting*. Proceedings of SMR, Nice FR, #1417, 1995.
75. Ong JG, **O'Dell WG**, McVeigh ER. *Compressibility Analysis of the Active Heart with High Resolution Magnetic Resonance Tagging*. Proceedings of SMR, Nice FR, #1424, 1995.
76. **O'Dell W**, Moore C, McVeigh E. *Optimization of Displacement Field Fitting for 3D Deformation Analysis* Proceedings of SMR, San Francisco CA, #1483, 1994.
77. **O'Dell W**, Moore C, McVeigh E, Zerhouni E. *Implementation of Displacement Field Fitting for Calculating 3D Myocardial Deformations from Parallel-Tagged MR Images*. Proceedings of IEEE-EMBS, Baltimore MD, 1994.
78. Guccione J, **O'Dell W**, McCulloch A, Hunter W. *Non-Axisymmetric Left Ventricular Geometry Leads to Non-Uniform Myocardial Sarcomere Lengths During Ejection*. Proceedings of the 2nd World Congress of Biomechanics, 1994.
79. **O'Dell W**, Moore C, McVeigh E. *Displacement Field Fitting Approach to Calculate 3D Deformations from Parallel-Tagged MR Images*. Proceedings of SMRI, San Francisco CA, 1993.
80. Guccione J, **O'Dell W**, Hunter W. *Comparison of Cross-Fiber Strain Between Anterior and Posterior Subepicardium During Left Ventricular Ejection*. Proceedings of the 65th Meeting of AHA, 1992.
81. Guccione J, **O'Dell W**, Douglas A, Hunter W. *Comparison Between 3D Strain in the Anterior and Posterior Subepicardium During Left Ventricular Ejection*. Proceedings of the American Society of Mechanical Engineering: Advances in Bioengineering, 1992.

82. **O'Dell W**, Schoeniger J, Blackband S, McVeigh E. *A Modified Quadrupole Gradient Set for use in High Resolution MRI Tagging*. Proceedings of SMRM, Berlin, 1992.
83. Moore CC, **O'Dell WG**, McVeigh ER, Zerhouni EA. *Three Dimensional Myocardial Strains in Humans Using Biplanar Tagged MRI*. SMRM Book of Abstracts 1991; Vol.1, p4.
84. Guccione J, Hunter W, Royce M, **O'Dell W**, Atalay M, Judd B, Leppo. *Comparison between Epicardial Sarcomere Lengths in the Anterior and Posterior Walls during Left Ventricular Ejection*. Proceedings of the 64th Meeting of AHA, 1991.

MENTORING

a) Current graduate students

Brandon Terracino, Aug. 14, 2017 – present
 UF Medical Physics PhD student (now within COM Medical Sciences)

Jyoti Jindal, Sept. 2019 – present
 UF Biomedical Engineering Masters student

Priyanka Pistolwala, Sept. 2018 – present
 UF Biomedical Engineering Masters student

Shruti Siva Kumar, Sept. 2015 – June 2016 as MS in BME, and July 2016 – present as PhD
 Recipient of 2019 Radiation Research Society Student Training Award
 Recipient of 2019 Biomedical Engineering Society Travel Award
 Recipient of 2018 Anita B.org Grace Hopper Fellowship Award
 Recipient of 2017 Biomedical Engineering Society (national BMES) Career Development Award, Aug. 24, 2017
 Recipient of the UF International Center (UFIC) Outstanding International Student Award 2016 for the Herbert Wertheim College of Engineering, Oct. 2016
 Won the national GE Industrial Remix Challenge in December 2015 (\$6,000 prize)

Dustin Begosh-Mayne, May 2013 – 2019
Quantifying long-term human lung tissue radiation dose-response in humans
 Recipient of 2013 UF Medical Student Summer Research Program award
 Now: practicing physician in internal medicine at Lee Memorial Health System, Tampa FL.

b) Former graduate students

Vishwas Jindal, Jan. 1, 2018 – May 2019 (graduated)
 UF Biomedical Engineering Masters student, Completed BME non-thesis MS project
Automatic registration of heart perfusion images
 Currently: Product Development Engineer at Veterinary Orthopedic Implants

Pooja Thakare, Jan. 1, 2017 – May 2018
 UF Biomedical Engineering Masters student, Completed BME non-thesis MS project
Early Markers of Radiation-Induced Cardiac Perfusion Deficits in Breast Cancer Patients
Determine radiation dose by analyzing experimentally acquired radiation exposure data
 Currently: System engineer at Rhombus Power, Inc.

Zahra Razi, Jan. 1, 2017 – July 2017

UF Medical Physics Masters student
Currently: Pursuing a PhD in Medical Physics at UF.

Chia-Lung Chien, Sept. 1, 2016 – July 2018
UF Completed Medical Physics non-thesis MS project (now in PhD MP program at LSU)
3D Deformable registration of the lung
Currently: Pursuing PhD in Medical Physics at Louisiana State Univ.

Karthick Nalladevan, Sept. 1, 2016 – May 2017
UF Biomedical Engineering Masters student, Completed BME non-thesis MS project
Deep learning for breast cancer detection (DREAM competition)
Currently: Application Consultant at BrainLAB, AG.

Aditya Shirvalkar, Sept. 1, 2016 – May 2017
UF Biomedical Engineering Masters student, Completed BME non-thesis MS project
Texture analysis methods for quantifying lung radiation damage

Simeng Zhu, May 2015-August 2016, 2nd year Med Student
Modelling patterns of breast cancer metastases
Currently: Resident in Radiation Oncology at Henry Ford Health System, Wayne State Univ.

Zachary Sorrentino, Summer 2016
UF 1st year MD/PhD candidate, summer research rotation

Daniel Murff, 2013 – 2015, MS in BME/Medical Physics
Creating 3D physical models of cardiopulmonary vasculature for surgical treatment planning
Currently: Working at Sun Nuclear Corp., Melbourne, FL

Sahil Manhas, 2012 – 2013, MS in BME (non-thesis)
Hessian matrix analysis for vessel extraction
Currently: Biological Scientist at Florida Biologix

Jiucheng Nie, 2012 – 2013, MS in BME (non-thesis)
Time-course of lung tissue radiation damage in SBRT patients
Currently: Software Engineer at DP Technology, Los Angeles, CA

David Crabb, May 2012 – Aug. 2012, (formerly 2nd year) UF Med Student
Novel approach for colon polyp computer aided detection.
Recipient of 2012 UF Medical Student Summer Research Program award

Ankit Salgia, 2011 – 2012, MS in BME (thesis)
Automatic quantification from CT scans of morphological changes in pulmonary arterial vasculature in pulmonary artery hypertension
Currently: Programmer at Stericycle, IL

Siddharth Ray, 2011 – 2012, MS in BME
Perpendicular fiber tracking for fiber bundle analysis
Currently: COO at ZiPiapp, an IT services company in India

c) UF undergraduate students, former and current

Gabriela Canel, Fall 2019 – present
UF undergraduate, freshman

Grace King, Fall 2019 – present
UF undergraduate, freshman

Karen Lin, Fall 2019 – present
UF undergraduate, freshman

John Baldwin Jr., Fall 2019 – present
UF undergraduate, freshman

Anitha Joseph, Fall 2019 – present
UF undergraduate, sophomore

Samuel Martocci, Spring 2019 – present
UF undergraduate, Biomedical Engineering

Randi Dias, Spring 2019 – present
UF undergraduate, sophomore

Youssef Mohamed, Fall 2018 – present
UF undergraduate, Biomedical Engineering

John Speights Fall 2018 – present
UF undergraduate, Biomedical Engineering

Enrico Bautista, Fall 2018 – present
UF undergraduate, Physics with concentration in Imaging

Shoba Abraham, Fall 2018 – present
UF undergraduate, pre-medicine
UF University Emerging Scholars Program award, 2019 – 2020

Carlos Lezcano III, Fall 2018 – present
UF undergraduate, Biomedical Engineering
UF ReTOOL Program award, summer 2019

Siri Ravuri, Spring 2018 – present
UF undergraduate, pre-medicine
UF Health Cancer Center University Scholars Program award, 2019 – 2020

Aren Saini, Spring 2018 – present
UF undergraduate, pre-medicine
UF University Scholars Program award, 2018 – 2019

Alexandria Ozycz, Fall 2017 – Spring 2018
UF undergraduate, Freshman, Biomedical Engineering

Anne Gormaley, Summer 2016 – Spring 2019
UF undergraduate in Biomedical Engineering
Validating vessel sizing using Gatortail

David Prida, Summer 2016 – March 2017
UF undergraduate, Junior, Nuclear Physics

Steven Toffel, Sept. 2015 – July 2016
High-dose radiation effects on lung vasculature and late fibrosis
UF Junior Honors Program
Currently: UF Medical School class of 2020

Sneh Parikh, Nov. 2015-present
Modeling kidney vascular and major collection ducts for surgical planning
UF University Scholars Program award, 2016-2017

Blake Boudreaux, 2014-2015
Radiation effects on lung vasculature in breast cancer patients

Alexandria Waler, Sept. 2014-May 2017
Radiation effects on heart function in breast cancer patients
UF University Scholars Program award, 2015-2016

Matt Wilhelm, Sept. 2013-2015
Radiation effects on lung vasculature in SRT patients
UF University Scholars Program award, 2014 – 2015
Presented poster at annual meeting of the Radiation Research Society, Sept. 2015, Las Vegas NV
Won best research paper award in the Medicine and Biology category for 2015 in the UF Journal of Undergraduate Research
Currently: Osteopathic Medical School at Nova Southeastern

Heather Lacy, 2013 – 2015
Lung vessel changes in childhood pulmonary arterial hypertension
UF University Scholars Program award, 2014 – 2015
Currently: Chief Scribe at Baylor-Sammons, Dallas, TX

Maria Fajardo, 2013 – 2014
Lung vessel development in preterm neonates
Role: Mentor for Beginning Mentored Research in Biology BSC 4910 (3-credit course)

Roshini Pudhucode, Sept. 2013 – 2014
Lung vessel development in preterm neonates

- d) [Undergraduates as part of the ReTOOL, Advanced ReTOOL, and MiCART post-baccalaureate research programs for underrepresented minorities](#)
Carlos Lezcano III, Univ. of Florida, Summer 2019 Advanced ReTOOL program
Breast cancer metastatic growth rates and racial disparities and metastatic presentation

Samentha Etienne, Edward Waters College, Summer 2018 Advanced ReTOOL program
Assessing quality of life for breast cancer patients who receive radiation therapy

Kyle Steen, FAMU, Summer 2017 Advanced ReTOOL program

Simone Mayes, Fall 2015 – June 2016, MiCART post-baccalaureate research program

Simone Mayes, FAMU, Summer 2015 Advanced ReTOOL program
Awarded Best ReTOOL project presentation for 2015

Allika Williams, FAMU, Summer 2013 ReTool, and Summer 2014 Advanced ReTOOL program
Tangible prostate phantoms for community education
Awarded 2nd place for the oral competition at the FGLSAMP Conference

e) Gainesville High School student research mentee

Sarah Eisenstadt, Sept. 2015

Effect of BRCA mutation on breast cancer metastases outcomes

Won best project in senior category, Alachua Region Science and Engineering Fair (sponsored by the Alachua County School Board)

Competed in Florida Science and Engineering Fair in March 29 – 30, 2016

f) UF Student Science Training Program (STTP) high school student mentee

Charles Williams, June 10 – July 30, 2019

Lung vascular development in youth who were prematurely-born

Karen Chapman, June 10 – July 29, 2018

Using Three-Dimensional Modeling to Analyze the Vascular System and Radiation-Induced Lung Damage

Won Outstanding Paper for the SSTP Program (1 of 9 such awarded of 86 students)

Eric Zeng, June 11 – July 29, 2017

Using left ventricular ejection fraction to quantify reductions in radiation toxicity to the heart with proton therapy as an alternative to radiotherapy

COURSES TAUGHT

Fall 2017	Three 50-minute lectures for course EEE 6512 Image Processing and Computer Vision.
March 30, 2017	50-minute lect. for BME 6010 – Clinical Preceptorship course, course director S. Hugo.
March 3, 2017	50-minute lect. for BME 1008 – Introduction to Biomedical Engr, course director S. Hugo.
Oct. 29, 2016	50-minute lect. for BME 1008 – Introduction to Biomedical Engr, course director S. Hugo.
Fall 2016	Nine 50-minute lectures for course EEE 6512 Image Processing and Computer Vision.
Fall 2014-Spring 2015	Project Faculty Advisor, Integrated Product and Process Design (IPPD), UF
Fall 2005-2010	BME502: Analytical Foundations in BME (4-week session) Graduate level, Department of BME, University of Rochester
Spring 2004-5	BME230: Signals and Measurements in BME (full course) 4 credits with lab, undergraduate, Department of BME, University of Rochester
Spring 2005	BME 591: Seminar Course in Medical Image Processing: 2 credits, graduate level, Department of BME, University of Rochester

Fall 2004 Seminar course in Advanced Finite Element Modeling (full course)
2 credits, graduate level, Department of BME, University of Rochester

Spring 2002-2003 Lecture Series: Medical Imaging and Applications to Radiation Therapy (3 week)
Radiation Oncology Residents Training in Medical Physics

Fall 2001-2002 Lecture and Laboratory Series: BME Image Processing Techniques (2 week)
BME 502 Graduate Laboratory, Department of BME, University of Rochester

Spring 2001-2003 Lecture Series: Myocardial Deformation and MRI (3 week)
BME 504 Graduate Seminar, University of Rochester

Fall 2000-2002 Lecture: Myocardial Motion Tracking and Gated Radiotherapy,
BME 593 Lab Rotations, Department of BME, University of Rochester

1999 Lecture: LV wall mechanics: MRI tagging and continuum modeling, Graduate
Biomechanics Class 252, Department of Bioengineering, University of California, San
Diego

Fall 1989, 1990 Teaching Assistant, Physiological Foundations of Biological Systems,
Department of Biomedical Engineering, Johns Hopkins University

Walter O'Dell

3/1/2019