

CURRICULUM VITAE

JAMAL ZWEIT

Professor

Department of Radiology, VCU School of Medicine
Director, Center for Molecular Imaging

Education

B.Sc., Radiation Biophysics (with biochemistry double major), University of Kansas, Lawrence, Kansas, USA. 1980.

Diploma, Nuclear Medicine and Oncology, John F. Kennedy Medical Center, New Jersey, and Residency in Nuclear Medicine Training, the Brooklyn Hospital, New York, USA 1981.

Board Certification in Nuclear Medicine Technology, 1981.

Ph.D., Positron Emission Tomography- Production and Radiochemistry of Medium Half-Life PET Radionuclides, University of Manchester, Manchester, UK, 1989.

Appointments and Positions held

Professor of Radiology and Director, Center for Molecular Imaging, Virginia Commonwealth University (2008-present).

Affiliate Professor of Radiation Oncology (2008), Pathology (2009, Biochemistry & Molecular Biology (2009, Chemistry (2009 and Biomedical Engineering (2014), Virginia Commonwealth University.

Senior Member, Massey Cancer Center, Virginia Commonwealth University (2009-present).

Reader in Biomolecular Imaging, University of Manchester (1998- 2008).

Head, Manchester Positron Emission Tomography Centre (ManPET), 1999-2008).

Group Head, CRCUK/University of Manchester Radiochemical Targeting and Imaging, Paterson Institute for Cancer Research and UM (1999- 2008).

CRUK/UMIST Senior Lecture in Biomolecular Imaging and Analytical Science, University of Manchester Institute of Science and Technology (1998- 2002).

Lecturer/ Research Scientist, University of London/ Institute of Cancer Research (1994-1997).

Honorary Clinical Fellow, Royal Marsden NHS Trust, UK (1993 - 1998).

Research Scientist, Institute of Cancer Research (1991-1994).

Post-doctoral Research Fellow, University of Manchester (1989-1991).

Research Interests

Multi-Modality Molecular Imaging, Radiopharmaceutical Development, Image-Guided Targeted Therapy, Nanotechnology and Image-guided Drug Delivery, Imaging Immunotherapy.

Contribution to Science- Summary

I have authored more than 150 peer-reviewed scientific journal articles, presented more than 100 invited lectures and contributed to organize and chair sessions at national and international symposia and conferences. A summary of major research achievements are:

- Conducted the world first molecular PET imaging clinical trial to study the pharmacokinetics of anti-angiogenic cancer therapy, (Journal National Cancer Institute, 2002 & 2006).
- Pioneered the production of laser-induced proton production of PET isotopes, (*J. Phys. D. Appl. Phys.*, 37, 2341, 2004; Editor's choice, *Science*, 305, 921, 2004).
- Pioneered the development of radio-intrinsic Nanoparticle imaging technology (Journal of Material Chemistry B 1(10): 1421-1431 & American Journal of Nuclear Medicine and Molecular Imaging, 2(2): 122-135).
- First in man translational research, from "bench" to bedside". Cu-62-PTSM PET imaging to measure angiotensin II-induced enhancement of blood flow in colorectal liver metastasis patients treated with intra-arterial 5-fluorouracil (5-FU), (*Eur. J. Nuclear Medicine*, 2001).
- First to develop I-124 and make it available to global PET community. These resulted in international collaborations with, Institute of Cancer Research/ Royal

Marsden Hospital, Surrey, UK (Eur. J. Med., 1997; Eur. J. Nucl. Med., 2001); Ludwig Institute for Cancer Research, Melbourne, Australia (J. Nucl. Med., 2001); and Memorial Sloan Kettering Cancer Center, New York, USA (Cancer Research, 1998).

- Pioneered the development of microfluidic technology for the radio-synthesis of F-18 PET radiotracers (J Applied Radiation & Isotopes, 2005).
- Pioneered the development of intrinsically radiolabeled nanoparticles, including quantum dots (Journal of Material Chemistry B., 2014), iron oxide (American Journal of Nuclear Medicine and Molecular Imaging, 2014), and cerium oxide nanoparticles (Journal of Material Chemistry B, 2013).
- Supervised and advised 25 PhD and MD/PhD graduate students in both the United Kingdom and the United States, and provided a research environment for more than 50 master and undergraduate students in both the UK and the USA.

Current Editorial

Editorial Board, Molecular Oncology Section Editor (International Journal of Molecular Sciences).

Editor in Chief (Journal of Molecular Imaging & Dynamics).

Editorial Board (Journal of Cancer Science & Research).

Editorial Board (American Journal of Nuclear Medicine & Molecular Imaging).

Editorial Board (Austin Journal of Radiology).

Editorial Board (Journal of Medical Imaging & Case Reports).

Editorial Board (Journal of Molecular Imaging & Biology).

Journal Reviewer (Last two years)

British Journal of Cancer

Cancer Research

European Journal of Nuclear Medicine and Molecular Imaging

Physics in Medicine and Biology

Applied Radiation and Isotopes

Journal of Fluorine Chemistry

Molecular Imaging and Biology

Nuclear Medicine and Biology

Journal of Bioengineering

PLoS One

Nanoscale

Journal of Nuclear Medicine & Molecular Imaging

International Journal of Molecular Sciences

Journal of Materials and Interface

Journal of Material Chemistry B

International Journal of Nanomedicine

Nanomedicine

Journal of Pharmaceutics and Drug Development

Present Society Membership

American Association for Cancer Research, USA
British Association for Cancer Research, UK
Society of Nuclear Medicine, USA
Radiopharmaceutical Chemistry Council, USA
CRUK Pharmacodynamic and Pharmacokinetic Technologies Advisory Committee, UK (2000-2008).
Bioinorganic Chemistry Group, Royal Society of Chemistry, UK.
Society of Molecular Imaging, USA.
World Molecular Imaging, USA.
Biomedical Engineering Society.

National and International Funding Review Activities (Over last 5 years)

National Institute of Health
National Science Foundation
Department of Defense
European Union
Medical Research Council
Cancer Research UK
Netherland Cancer Foundation
International Association for Cancer Research
Danish National Research Foundation

National and International Conference Review Activities (over last 5 years)

American Association for Cancer Research
British Association for Cancer Research
American Heart Association
World Molecular Imaging Congress
Society of Nuclear Medicine and Molecular Imaging
European Association of Nuclear Medicine and Molecular Imaging
American Society for Clinical Oncology
International Symposium for Radiopharmaceutical Chemistry

Higher Education and Graduate Research Mentoring

Graduate Students:

I have mentored many graduate students, including PhDs, MD/PhDs, in addition to Master students. Some of my past mentees, listed below are currently in leadership positions in major institutions in USA and Europe.

Jason Lewis), PhD, University of Kent, UK (1993-1997).

Dermot Burk, MD/PhD, University of London, UK (1995-1998).
Mike Dwokin), MD/ MS, University of London, UK, (1996-1998).
Clive Foster, PhD, University of Durham, UK (1993-1997).
Jane Sosabowski, PhD, University of London, UK (1995-1999).
Heather Keen, PhD), University of Manchester, UK (1998-2011).
Bronwen Dekker, PhD, University of Manchester, UK (1998-2012).
Heather Williams, PhD, University of Manchester, UK (1999-2013).
Grant Harding, PhD), University of London, UK (1995-1998).
Morag Eason, PhD, University of Durham, UK (1997-2000).
Helen Young, PhD, University of London (1996-1999).
Jane Wilson, PhD, UMIST, UK (1998-2001).
Simon Robinson, MSc, University of Manchester, UK (1998-2001).
Marvin Doyley, MSc, University of Brunel, UK (1997-2000).
Karen Fuller, MScUMIST, UK (2001-2003).
Mathew Thomas, MSc, UMIST, UK (1999-2001).
Mark Dixon, MSc, UMIST, UK (1997-1998).
Brendan McCabe, MSc, UMIST, UK (2001-2002).
Nigar Najim, MSc, UMIST, UK (2003-2005).
Fatma Youniss, PhD, Virginia Commonwealth University, USA (2010-2014).
Naru Lamichhane, PhD, Virginia Commonwealth University, USA (2010-2015).
Philip McDonagh, MD/PhD, Virginia Commonwealth University, USA (2014-2017).
Asim Alam, MD/PhD, Virginia Commonwealth University, USA. (2013-2016).
Brian Leong, MS, Virginia Commonwealth University, USA. (2016-2018).
Ali Gawi, PhD, Virginia Commonwealth University, USA. (2016-).
Nouri Elmakharam, PhD, Virginia Commonwealth University, USA. (2016 -).

Post-doctoral Fellows and faculty:

James Gillies, PhD, Paterson Institute for Cancer Research & University of Manchester, UK.
Heather Keen, PhD, Paterson Institute for Cancer Research & University of Manchester, UK.
Bronwen Dekker, PhD, University of Manchester, UK.
Jane Sosabowski, PhD, Institute of Cancer Research, UK.
Christian Prenant, PhD, Paterson Institute for Cancer Research & University of Manchester, UK.
Nevil Chimon, PhD, Paterson Institute for Cancer Research & University of Manchester, UK.
John Hadfield, PhD, Paterson Institute for Cancer Research & University of Manchester, UK.
Sha Zhao, PhD, Paterson Institute for Cancer Research & Christie Hospital, UK.
Peter Julian, PhD, Medical Physics, Christie Hospital UK.
Minghao Sun, PhD, Virginia Commonwealth University, USA.
Gajanan Dewkar, PhD, Virginia Commonwealth University, USA.
Likun Yang, PhD, Virginia Commonwealth University, USA.
Purnima Jose, PhD, Virginia Commonwealth University, USA.

Vimalan, PhD, Virginia Commonwealth University, USA.
Cemile Kumas, PhD, Virginia Commonwealth University, USA.
Mark Murphy, Virginia Commonwealth University, USA.

Ongoing Research Support

RO1: RNS093985A NIH/NINDS; Sun (PI) 2016/06/01-2021/05/31

Combination of hiPSCs and Bioengineering to Repair Injured Pediatric Brain

The research in this grant uses induced pluripotent stem cells (iPSCs)-derived neural stem cells (iPSC-NPs) in combination with targeted tissue bioengineering to test the hypothesis that this approach will result in the optimal brain tissue repair and facilitate functional recovery following pediatric traumatic brain injury (TBI) in the animal model.

Role: Co-Investigator

RO1: FP00004840 NIH

High efficiency aerosol delivery using the excipient enhanced growth concept. The goal of this project is to investigate the merit of aerosol drug delivery directed by image guidance of radiolabeled aerosol particles. 2017-2021. Role: Co-PI.

NIH R21 CA216685; Oh (PI)

Therapeutic potential of neutrophil protease inhibitors in colon cancer. 2018-2020.

Role: Co-Investigator.

VBHRC Catalyst, Tushar (PI), EVMS

Development of peptide inhibitor of complement C1 as a treatment for neonatal hypoxic-ischemic encephalopathy. 2018-2020.

Role: Co-PI.

DE-FOA-0001588 Department of Energy (DOE)

Research Development and Training in Isotope Production Zweit (PI), 2018-2020.

Recently Completed Research Support (2014-2018)

Cancer Research Institute, Inc, Zweit (PI) 2015/08/01-2018/06/30 Immunotherapeutic Targeting Cell Surface Neoantigen SAS1B

Title: Immunotherapeutic targeting cell surface neoantigen.

The overall goal of the proposed research aims to exploit the tumor selective properties of SAS1B to develop and evaluate immune-therapeutics targeting cell surface SAS1B using passive and active immunization strategies including antibody-drug conjugates, antibody-nuclide conjugates, chimeric antigen receptors, and a SAS1B targeted peptide vaccine.

Virginia Biosciences Health Research Corp, Zweit (PI) 2014/04/01-2016/03/31
VCU-UVA Partnership to Develop Radioimmuno-therapeutic and Imaging Agents to Cell Surface SAS1B for Ovarian, Uterine and Pancreatic Cancer

The SAS1B target is expressed on the surface of a wide range of cancers. Prototype immunotoxins to SAS1B has already shown *in vitro* efficacy. Overall goal is to develop human monoclonal antibody-radionuclide conjugates to cell surface SAS1B. SAS1B provides a path to selectively kill Ovarian, Uterine and Pancreatic tumor cells and not affect other tissues in the body.

Society of Nuclear Medicine and Molecular Imaging, Hoffman (PI), 2014/09/01-2014/03/01
Hybrid Positron Emission Tomography/Magnetic Resonance Imaging Nanoparticle Probe Development and Multi-Modal Imaging.

Development of hybrid radioactive nanoparticles that potentially could be used for theranostic applications

Role: Mentor

Society of Nuclear Medicine and Molecular Imaging, McDonah (PI), 2014/03/01-2015/02/28
Molecular Imaging of Radiolabeled Nanoceria: A New Platform to Study the Mechanism of Normal Tissue Protection by Nanoceria During Radiotherapy of Tumors.

Nanoceria are a new class of nanoparticles with less or no *in vivo* toxicity. These are powerful scavengers of free radicals and are potentially useful for protecting normal tissue during radiation therapy.

Role: Mentor

FCA186613A NIH/NCI, McDonagh (PI), 2015/03/01-2017/02/28

Molecular Imaging to Study Radio-Protection by Cerium Oxide Nanoparticles. Using multi-functionalized Cerium oxide nanoparticles (CONPs) and molecular imaging, the effectiveness of CONPs as radio-protective free radical scavengers in normal but not tumor tissues will be tested along with comparing differences in the tissues' microenvironments which could cause changes in their uptake or radical scavenging ability.

Role: Mentor

Massey Cancer Center, Mikkelsen (PI), 2014/05/01-2015/04/30

Chemo and radio-sensitization of solid tumors by nitric oxide synthase recoupling and normalization of tumor vasculature

Nitric Oxide Synthase (NOS) uncoupling represents a critical switching mechanism for cell growth. NOS activity in cancer cells can be recoupled with the BH4 precursor, Sepsippterin (SP). When coupled, the primary product of NOS is Nitric Oxide (NO) and downstream signaling is dominated by NO-dependent pathways. Uncoupled NOS, on the other hand, produces potent oxidants initiating different downstream signaling that for tumor cells that are pro-proliferative and anti-apoptotic. We are testing whether SP treatment *in vivo* normalizes tumor vasculature increasing anti-tumor drug uptake and oxygen levels enhancing chemo- and radio-sensitivities.

Role: Co-PI

Commonwealth Health Research Board: Development of Biomarkers that Target Tumor Associated Macrophages.

Role: Co-PI (sub-award with Stuart Berr, UVA). July 1, 2012 – June 30, 2014.

Selected Invited Lectures (1997-2018)

Accelerator-Based Radioisotope Research for Imaging and Targeted Therapy. Invited Panelist, DOE Jefferson Laboratory's Technology Stewardship Accelerators: Driving Applications for Society, Newport News, Virginia, December, 2018.

Neuro-Imaging in Dementia: Structural, Functional and Molecular Imaging. Invited speaker, Virginia Geriatric Society, Richmond, Virginia, April, 2018.

Fluorine-18-Carboplatin Drug Derivative for PET Imaging of Platinum Drug Distribution. Virginia Cancer Rx Symposium on Drug Discovery for Cancer, Charlottesville, Virginia, USA, May 2017.

Molecular Imaging and Nanotechnology in Cancer Biology and Therapeutics. George Mason University, USA, February, 2015.

Plenary Speaker, Molecular Imaging Theranostics: Towards in vivo cancer biomarker imaging, 3rd World Congress on Biomarkers & Clinical Research, July 2012, Las Vegas, Nevada, USA.

Multi-modality and Hybrid Probes for Cardiovascular Molecular Imaging, International Atomic Energy Agency, Vienna, Austria, June 2012.

Targeted Molecular Image-Guided Molecular Cancer Therapeutics, Eastern Virginia Medical School, Norfolk, Virginia. May 2012

Merging of Molecular Imaging and Nanomedicine in Individualized Precision Cancer Therapeutics, University of Texas Institute of Molecular Medicine, Houston, USA, April 2012.

Multi-modality Molecular Imaging and Nanotechnology in Cancer Biology and Therapeutics, University of Central Florida, Orlando, Florida, USA, November 2011.

Radio-Nanoparticles for Multi-Modality Molecular Targeting & Imaging, Caliper Life Sciences, Boston, Massachusetts, USA, May 2011.

Multi-modality Molecular Imaging, and Nanotechnology in Cancer Biology and Therapeutics, Molecular Insight Pharmaceuticals, May 2011.

Multi-modality Molecular Imaging, and Nanotechnology in Cancer Biology and Therapeutics, University of Virginia, March 2011.

Molecular and Nanotechnology Imaging in Cancer Biology and Therapeutics, Bio Nanotech Conference & Expo, Anaheim, CA, 2010.

Nano-PET Molecular Imaging and in Cancer Biology and Therapeutics, Martinos Center, Massachusetts General Hospital Seminar Series, Boston, Massachusetts, March 2009.

Multi-Modality Molecular Probes for Cancer Imaging: University of Firenze, Firenze, Italy, May 2007.

Molecular Targeting and Imaging in Preclinical Models: "Pictures speak louder than words". The use of Imaging Techniques in Animal Science, Laboratory Animal Science Association. AstraZeneca, Macclesfield, UK, 2006.

Biomarkers molecular and cellular probes for multi-modality molecular imaging of apoptosis. AstraZeneca/ University of Manchester Biomarker Club. Manchester, UK, 2006.

Development in molecular targeting, nanotechnology and multi-modality imaging to study cancer biology and therapeutics. The molecular signatures of cancer- from bench to clinic and back again, DTI/ NTRAC, UK / Texas Bioscience Collaboration, Oxford, UK, 2006.

Biological Basis of Molecular Imaging. UK Radiological Conference, Manchester, UK, 2005.

Molecular Targeting and Nanotechnology applications in radiochemistry and PET Imaging. Hospital San Jaime Cancer Centre, Spain, 2004.

Molecular Imaging in Cancer Biology and Therapy. Institute for Cancer Research, Sutton, UK. 2003.

Pharmacodynamic and Pharmacokinetic PET Imaging in drug development, Astra Zeneca, Cheshire, UK, 2003.

Biomolecular imaging in cancer biology and therapy. Invited lecture, Eli Lilly, Indianapolis, USA, 2003.

New Imaging Techniques: from live cells to whole organisms. Invited lecture and session chairman, British Endocrine Societies, Harrogate, UK. 2002.

Functional and Molecular Imaging: PET, MR and Optical imaging in cancer biology and therapy. Manchester Medical Society, Manchester, UK. 2002.

Imaging angiogenesis using antibodies. DOE sponsored Workshop, Pre-Society of Nuclear Medicine Annual Meeting, L. A. USA. 2002.

Functional and molecular imaging with positron emission tomography (PET). Surgical Oncology Society Meeting, Leeds, UK. 2000.

Positron Emission Tomography using medium half-life inorganic radionuclides and radiopharmaceuticals, Official Inauguration Ceremony of PET Laboratory, National Laboratory of Legnaro, University of Padova, Italy. 1999

Medium half-life inorganic radionuclides for PET imaging. EU sponsored program on “Advanced Easter School in Radiopharmaceutics”, University of Liverpool, UK. 1998.

Radiopharmaceutical therapy in cancer, principles and clinical practice. Cancer Update Symposium, Institute of Cancer Research, London, UK, 1997.

Positron emitting radionuclides and their beta emitting analogues for PET imaging and targeted therapy. The Royal Society of Chemistry, London, UK. 1997.

Publications (reverse chronological order)

McDonagh PR, Sundaresan G, Yang L, Sun M, Mikkelsen R, Zweit J. (2019). Cerium oxide nanoparticles protect normal colon tissues following radiotherapy of colon tumors: Insights into redox-based mechanism of action. *International Journal of Molecular Sciences*, in press.

Krzastek S.C., Goliadze E., Zhou S., Petrossian A., Youniss F., Sundaresan G., Wang L., Zweit J., Guruli G. (2018). Dendritic cell trafficking in tumor-bearing mice. *Cancer Immunology Immunotherapy*, 67(12):1939-1947.

McDonagh PR, Sundaresan G, Yang L, Sun M, Mikkelsen R, Zweit J. (2018). Biodistribution and PET imaging of 89-Z-zirconium labeled cerium oxide nanoparticles synthesized with several surface coatings. *Nanomedicine: Nanotechnology, Biology and Medicine*, 14: 1429-1440.

Rabender CS, Bruno N, Alam A, Sundaresan G, Zweit J, Mikkelsen RB (2018). Sepiapterin Enhances Tumor Radio- and Chemo-sensitivities by Promoting Vascular Normalization. *Journal of Pharmacology and Experimental Therapeutics*, in press.

Lamichhane, N., Dewkar, G. K., Sundaresan, G., Mahon, R. N., & Zweit, J. (2017). [18F]-Fluorinated Carboplatin and [111In]-Liposome for Image-Guided Drug Delivery. *International journal of molecular sciences*, 18(5), 1079.

Lamichhane, N., Dewkar, G. K., Sundaresan, G., Wang, L., Jose, P., Otabashi, M., Morelle, J. L., Farrell, N., & Zweit, J. (2017). Fluorine-18 Labeled Carboplatin Derivative for PET Imaging of Platinum Drug Distribution. *Journal of Nuclear Medicine & Molecular Imaging*, 58: 1997-2003.

Y Ma, C Yu, E M Mohamed, H Shao, L Wang, G Sundaresan, J Zweit, M Idowu and X Fang (2016). A causal link from ALK to hexokinase II overexpression and hyperactive glycolysis in EML4-ALK-positive lung cancer. *Oncogene*, 35: 6132-6142.

Salvadore-Morales C, Brahmbhatt B, Mrquez-Miranda V, Araya-Duran I, Canan J, Gonzalez-Nilo F, Vilos C, Cebral J, Mut F, Lohner R, Leong B, Sundaresan G & Zweit J (2016). Mechanistic studies on the self-assembly of PLGA patchy particles and their potential applications in biomedical imaging. *Langmuir*, 32: 7929-7942.

Shirae K. Leslie, Anthony M. Nicolini, Sundaresan Gobalakrishnan, Jamal Zweit, Barbara D. Boyan, and Zvi Schwartz (2016). Development of a Cell Delivery System Using Alginate Microbeads for Tissue Regeneration. *Journal of Material Chemistry B*, 4: 3515-3525.

Das, Soumen; McDonagh, Philip Reed; Sakthivel, Tamil Selvan; Barkam, Swetha; ortiz, julian; killion, kelsey; Saraf, Shashank; Kumar, Amit; Gupta, Ankur; Zweit, Jamal; Seal, Sudipta (2016). Tissue deposition and toxicological effects of commercially significant rare earth oxide nanomaterials: material and physical properties. *Environmental Toxicology*, 32 (3): 904-917.

Jamal Zweit & Sundaresan Gobalakrishnan (2016). Molecular Imaging of Small Animals. *Medical Physics*, 43 (6 part1): 3208-3209. DOI: 10.1118/1.4950715.

C. Salvador-Morales, Binal Brahmbhatt, V. M. rquez-Miranda, I. Araya-Duran, J. Canan, F. Gonzalez-Nilo, C. Vilos, J. Cebral, F. Mut, R. Lohner, B. Leong, G. Sundaresan, and J. Zweit (2016). Mechanistic studies on the self-assembly of PLGA patchy particles and their potential applications in biomedical imaging. *Langmuir*, 32(31): 7929-7942.

Song S., Zweit J., Fratkin M.J., Williamson J.F., Holdford D. (2016). Radiation-induced mucositis does not increase radiotracer uptake on PET/CT imaging in head and neck cancer patients. *International Journal of Radiation Oncology, Biology & Physics*, 94 (4):922-923.

Chadia L. Robertson, Jyoti Srivastava, Ayesha Siddiq, Rachel Gredler, Luni Emdad, Devaraja Rajasekaran, Maaged Akiel, Xue-Ning Shen, Frank Corwin, Gobalakrishnan Sundaresan, Jamal Zweit, Colleen Croniger, Xiaoli Gao, Shobha Ghosh, Philip B. Hylemon, Mark A Subler, Jolene J. Windle, Paul B. Fisher, Devanand Sarkar (2015). Astrocyte Elevated Gene-1 (AEG-1) Regulates Lipid Homeostasis ID#: JBC/2015/661801, *Journal of Biological Chemistry*, 290 (29): 18227-18236.

Maria Eugenia Teves, Zhibing Zhang Gobalakrishnan Sundaresan, David J. Cohen, Sharon L. Hyzy, Illya Kajan, Melissa Maczis, Richard M. Costanzo, Jamal Zweit, Zvi

Schwartz, Barbara D. Boyan, Jerome F. Strauss, III (2015) Spag17 Deficiency Results in Skeletal Malformations and Bone Abnormalities PONE-D-14-58366R2.

Maria Eugenia Teves, Zhibing Zhang, Richard M. Costanzo Gopalakrishnan Sundaresan, David J. Cohen, Sharon L. Hyzy, Illya Kajan, Melissa Maczis, , Richard M., Jamal Zweit, Zvi Schwartz, Barbara D. Boyan, Jerome F. Strauss, III (2013). *Am J Respir Cell Mol Biol*, 48 (6): 765-772.

Zinc Deficiency in Cirrhosis: Micronutrient for Thought? Sasha Mangray, Jamal Zweit, Puneet Puri. *Dig Dis Sci* (2015) 60:2868–2870. DOI 10.1007/s10620-015-3854-y.

Rabender CS, Alam A, Sundaresan G, Cardnell RJ, Yakovlev VA, Mukhopadhyay ND, Graves P, Zweit J, Mikkelsen RB (2015). The Role of Nitric Oxide Synthase Uncoupling in Tumor Progression. *Mol Cancer Res*, 13(6):1034-43.

Dewkar G. K., Lamichhane N., Jose P., Sundaresan G, Zweit J. (2014) Fluorinated Carboplatin Derivative: A Novel Theranostic Drug for Cancer Therapy and Imaging (For submission)

Hoffman D, Sun M, Yang L, Sundaresan G, Corwin F, Zweit J (2014) Intrinsically radio-labeled [⁵⁹Fe]-SPIONs for MRI/radionuclide detection. *American Journal of Nuclear Medicine and Molecular Imaging*, 4(6): 548-560.

Youniss F, Sundaresan G, Jose P, Zweit J (2014) Multi-spectral fluorescence imaging of adoptive immune cell therapy using a cell membrane probe. *PLOS One*, 9(10):

Axente M, He J, Bass CP, Sundaresan G, Zweit J, Williamson JF and Pugachev A. (2014). An alternative approach to histopathological validation of PET imaging for radiation therapy image-guidance: A proof of concept. *RadiotherOncol*, 110 (2): 309-316. PMID 22444241

Walenga RL, Longest PW, Sundaresan G. (2014) Creation of an In Vitro Biomechanical Model of the Trachea using Rapid Prototyping. *Journal of Biomechanics*, 47(8): 1861–1868.

Sun M, Sundaresan G, Jose P, Yang L, Zweit J (2014). Highly stable intrinsically radiolabeled indium-111 quantum dots with multidentate zwitterionic surface coating: dual modality tool for biological imaging. *Journal of Material Chemistry B*. 2, 4456-4466.

Sun M, Yang L, Zweit J (2013) Functionalization of quantum dots with multidentate zwitterionic ligands: tuning cellular interaction and cytotoxicity. *Journal of Material Chemistry B* .1(44):6137-6146

Teves, M, Zhang, Z., Costanzo, R., Henderson, S., Corwin, F., Zweit, J., Gopalakrishnan S., Subler, M., Salloum, F., Rubin, B., Strauss, J. (2013) Sperm-associated antigen-17

gene is essential for motile cilia function and neonatal survival. *American Journal of Respiratory Cell and Molecular Biology*, 48(6), 765-72. PMID 23418344

Yang, L., Gobalakrishnan, S., Sun, M., Jose, P., Hoffman, D., McDonagh, P.R., Lamichhane, N., Cutler, C.S., Perez, J.M., Zweit, J. (2013). Intrinsically Radiolabeled Multifunctional Cerium Oxide Nanoparticles for in vivo studies. *Journal of Material Chemistry B* 1(10): 1421-1431.

Dewkar, G., Gobalakrishnan, S., Lamichhane, N., Hirsch, J., Thadigiri, C., Youniss, F., Collier, T., Hartman, M., Vaidyanthan, G., Zweit, J. (2013). Microfluidic radiosynthesis and in vivo evaluation of [18F] 2-(5-fluoro-pentyl)-2-methyl malonic acid. *J. Labeled Compounds and Radiopharmaceuticals* 56(5): 289-294.

Axente M, He J, Bass CP, Hirsch JI, Sundaresan G, Zweit J, and Pugachev A. (2012). Tumor microenvironment heterogeneity affects the perceived spatial concordance between the intratumoral patterns of cell proliferation and 18F-fluorothymidine uptake. *Radiother Oncol*, 105(1): 49-56. PMID 22444241

Cai W, Hong H (2012) in a “nutshell”: intrinsically radio-labeled quantum dots. *American Journal of Nuclear Medicine and Molecular Imaging*, 2(2): 136-140. PMID 23133808

Sun M, Hoffman D, Sundaresan G, Yang L, Lamichhane N, Zweit J (2012). Synthesis and characterization of intrinsically radio-labeled quantum dots for bimodal detection. *American Journal of Nuclear Medicine and Molecular Imaging*, 2(2): 122-135. PMID 23133807

Axente M, He J, Bass CP, Hirsch JI, Sundaresan G, Zweit J, and Pugachev A. (2011). Comprehensive approach to co-registration of autoradiography and microscopy images acquired from a set of sequential tissue sections. *Journal of Nuclear Medicine*, 52(10): 1621-9. PMID 21865287

Flower M, Zweit J. and M Atthey (2006). Unsealed radionuclide targeted therapy. In “Hand Book of Radiotherapy Physics; Theory and Practice”, P Mayles, A Nahum and J-C Rosenwald (eds). Institute of Physics Publishing.

David M Shaw, Noel B Connolly, Poulam M Patel, Suzanne Kilany, Gunnar Hedlund, Örjan Nordle, Göran Forsberg, Jamal Zweit, Peter L Stern and Robert E Hawkins (2006). A phase II study of a 5T4 oncofetal antigen tumor-targeted superantigen (ABR- 214936) therapy in patients with advanced renal cell carcinoma. *Journal of Clinical Oncology, ASCO Annual Meeting Proceedings (Post-Meeting Edition)*. Vol 22, No 14S (July 15 Supplement), 3162

Williams H, Zweit J, Gillies J, Julyan P, Hastings D, Ransom M (2006). Does 124Iodo-deoxyuridine measure cell proliferation in NSCLC? Initial investigations with PET imaging and radio-metabolite analysis. *Eur. J. Nucl. Med. Mol & Imaging*. 34:2, 301-303

Gillies, J.M., Smethurst, G.J., Hamblett, I., Dekker, B., Chimon, G.N., Prenant, C., and Zweit. J., (2006), Microfluidic technology for PET radiochemistry. *Appl.Radiat. Isot.*, 64:3, 333-336

Gillies, J.M., Najim, N., and Zweit. J., (2006), Quantification of radioisotope impurities generated in [18O]-H₂O during the production of Fluorine-18, *Appl.Radiat. Isot.*, 64:4, 432-434

Workman, P, Aboagye, E, Chung, YL, Griffiths, J, Hart, R, Leach, M, Maxwell, R, McSheehy, P, Price, P, Zweit, J, (2006), for the Cancer Research UK Pharmacodynamic/Pharmacokinetic Technologies Advisory Committee. Minimally-Invasive Pharmacokinetic and Pharmacodynamic Technologies in Hypothesis-testing Clinical Trials of Innovative Therapies. *Journal National Cancer Institute*, 98, 580-598.

Williams, H., Robinson, S., Julyan, P., Zweit. J., and Hastings, D., (2005), A comparison of PET imaging characteristics of various copper radioisotopes, *Eur. J. Nucl. Med. Mol & Imaging.*, 32, 1473-1480.

Harris, M.L., Julyan, P., Kulkarni, B., Gow, D., Hobson, A., Hastings, D., Zweit, J., & Hamdy, S., (2005), Mapping metabolic brain activation during human volitional swallowing: a positron emission tomography study using [F-18]-fluorodeoxy glucose. *J. Cereb. Blood Flow Metab.*, 25, 520-526.

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