

## Stephen A. Graves, Ph.D.

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### EDUCATION

*Doctor of Philosophy* in Medical Physics 2012 - 2017  
University of Wisconsin - Madison  
Dissertation: "Production and Applications of Long-Lived Positron-Emitting Isotopes"

*Master of Science* in Medical Physics 2012 - 2014  
University of Wisconsin - Madison  
G.P.A. 3.93

*Bachelor of Science* in Physics 2009 - 2012  
Tennessee Technological University  
Minor: Mathematics  
G.P.A. 3.81

### PROFESSIONAL EXPERIENCE

***Medical Physics Resident*** 2017 - Present  
University of Iowa  
Dept. of Radiation Oncology  
Residency Program Director: Prof. Daniel E. Hyer, Ph.D.

***Postdoctoral Researcher*** 2017 - 2017  
University of Wisconsin - Madison  
Dept. of Medical Physics, Cyclotron and PET Research Group  
Supervisor: Prof. Jonathan W. Engle, Ph.D.

- Devised new radiochemical isolation method for  $^{89}\text{ZrCl}_4$  to improve bioconjugate stability.

***Research Assistant*** 2012 - 2017  
University of Wisconsin - Madison  
Dept. of Medical Physics, Cyclotron and PET Research Group  
Advisor: Prof. Robert J. Nickles, Ph.D.

- Led or assisted in the cyclotron production and radiochemical isolation of many PET, SPECT, and therapeutic radioisotopes. ( $^{11}\text{C}$ ,  $^{15}\text{O}$ ,  $^{18}\text{F}$ ,  $^{44}\text{Sc}$ ,  $^{45}\text{Ti}$ ,  $^{48}\text{V}$ ,  $^{48/51}\text{Cr}$ ,  $^{51/52}\text{Mn}$ ,  $^{55/58m}\text{Co}$ ,  $^{61/64}\text{Cu}$ ,  $^{63}\text{Zn}$ ,  $^{66/68}\text{Ga}$ ,  $^{76/77/80m}\text{Br}$ ,  $^{86}\text{Y}$ ,  $^{89}\text{Zr}$ ,  $^{95/99m}\text{Tc}$ ,  $^{119}\text{Sb}$ ,  $^{194}\text{Au}$ , &  $^{197}\text{Hg}$ )
- Developed production and separation methods for  $^{52}\text{Mn}$  and  $^{51}\text{Mn}$ , and applied these PET radioisotopes in a variety of projects including stem cell tracking, immunoPET, nanoparticle tracking, and pancreatic  $\beta$ -cell quantification.
- Performed OLINDA/EXM dosimetry calculations for a variety of radiotracers.
- Performed weekly  $^{64}\text{Cu}$  &  $^{89}\text{Zr}$  productions for use in multi-center radiolabeling and radiopharmaceutical clinical trials. Completed  $^{64}\text{Cu}$  &  $^{89}\text{Zr}$  specific activity assays for quality assurance.
- Developed production and separation techniques for  $^{194}\text{Au}$  for use in the synthesis of fluorescent gold nanoparticles.
- Constructed a nuclear decay database for automatic HPGe gamma spectroscopy nuclide identification and quantification.
- Disassembled Siemens ECAT HR+ PET scanner at Brookhaven National Lab, reassembled at the University of Wisconsin - Madison.

**IMRT QA Team Leader** 2016 - 2017  
**IMRT QA Team Member** 2015 - 2016  
 University of Wisconsin - Madison  
 Comprehensive Cancer Center

- Performed patient-specific IMRT quality assurance (QA) measurements, including VMAT, SBRT, FSRT, and TomoTherapy plans, using ScandiDos Delta4 system, ion chambers, and transmission detectors.
- Trained new team members in IMRT QA associated tasks, including treatment planning, Delta4 operation, Delta4 troubleshooting, and basic machine troubleshooting.

**Monthly Linac QA Team Member** 2015 - 2017  
 Beloit Health System  
 UW Cancer Center

- Independently performed TG-142 compliant monthly QA on Elekta Infinity.
- Responsible for student coordination and training.

**Guest Research Scientist** 2015  
 Los Alamos National Laboratory  
 Inorganic, Isotope, and Actinide Chemistry (IIAC) Group

- Performed Fe+p nuclear cross section measurement experiments on Los Alamos Neutron Science Center (LANCSE) 100 MeV isotope production facility beamline. For this experiment, a new target design was constructed and tested. Stacked foil MCNP simulations were performed, and reaction products were quantified by HPGe spectrometry.
- Developed new analytic techniques for beam energy determination in stacked foil-type nuclear excitation function measurements.

**Research Assistant** Summer 2010, 2011  
 Oak Ridge National Laboratory  
 Holifield Radioactive Ion Beam Facility (HRIBF)

- Assisted in vacuum control system logic redesign at the Daresbury Recoil Separator
- Actively involved in  $^{27}\text{Al}(^3\text{He},d)$ ,  $^{130}\text{Te}(d,p)$ , and  $^7\text{Be}+d$  reaction studies.
- Designed, built, and characterized target gas flow control module and beam profiling iris-type aperture.

## TEACHING EXPERIENCE

**Guest Lecturer** 2017-Present  
 University of Iowa, Dept. of Radiation Oncology  
 Course: Medical Physics for the Radiation Therapist I

- “Types of Linear Accelerators and their Operation” 2017

**Laboratory Teaching Assistant** 2013, 2014  
 University of Wisconsin - Madison, Department of Medical Physics

- Instructed graduate students in the laboratory component of “Radioisotopes in Medicine and Biology.” Pre-lab lectures were prepared and delivered; experiments were devised, prepared, and supervised; and laboratory reports were graded.
- Maintained apparatus for gamma spectroscopy, x-ray spectroscopy, beta spectroscopy, alpha spectroscopy, coincidence counting, positron emission tomography, tracer kinetic modeling, trace metal analysis, and single-photon gamma imaging.

**Laboratory Teaching Assistant** 2010 - 2012  
 Tennessee Technological University, Department of Physics

- Instructed undergraduates in algebra and calculus-based physics. Pre-lab lectures were prepared and delivered; experiments prepared and supervised; and laboratory reports were graded.

## GRANTS & FELLOWSHIPS

General Electric PET/MRI Seed Grant:	2015
“Development of $^{52}\text{Mn}$ /Mangafodipir: PET/MRI Contrast Agent and SOD Mimetic”	
NIH Radiological Sciences Training Grant	2015 - 2017

## PATENTS

“Methods for Quantifying Pancreatic Beta Cell Function and Mass Properties with Radiomanganese Positron Emission Tomography” - Pending	2016
<b>S. Graves</b> , R. Hernandez, W. Cai, R. Nickles	
Application Number: TBD	
Filing Date: TBD	
“Systems and Methods for a Linearly Filled Nuclear Imaging Phantom”	2015
<b>S. Graves</b> , B. Cox, M. Farhoud	
Application Number: 14/947,579	
U.S. Patent Number: 9625584	
Publication Date: 18th of April, 2017	

## TECHNICAL SKILLS

**Clinical Software:** Working knowledge of Pinnacle, Eclipse, TomoTherapy Planning, BrachyVision, OLINDA/EXM, MOSAIQ, ARIA, XVI, iView, ScandiDos Delta4, Sun Nuclear Corp Applications, Velocity, VivoQuant, Inveon Research Workplace

**General Software:** Advanced knowledge of LabVIEW, Igor Pro, Maestro. Proficient in Mathematica, Adobe Photoshop, Adobe Lightroom, ImageJ, EndNote, ChemDraw, Microsoft Office, WordPress. Basic knowledge of AutoCAD.

**Languages and Scripts:** Proficient in Python, FORTRAN, LadderLogic, MCNP6, AutoHotkey,  $\text{\LaTeX}$ . Basic knowledge of C++, MATLAB, R, and BASH.

**Operating Systems:** Proficient in all common operating systems.

**Computer Hardware:** Advanced knowledge of computer design, function, and repair. Basic knowledge of network design and Arduino micro-controller implementation.

**Electronics and Detectors:** Proficient in troubleshooting and repairing simple electronic systems. Working knowledge of ion chambers, cerenkov counters, semiconductor detectors, liquid scintillators, diodes, MOSFETs, and radiochromic film.

**Fabrication:** Proficient in use of CNCs, mills, lathes, oxy-acetylene torches, band saws, grinders, drill presses. Basic knowledge of resistive spot welding and cold pressure welding. Novice knowledge of 3D printing methods and workflow.

## ACADEMIC SERVICE & HONORS

Ad Hoc Reviewer	
Journal of Applied Clinical Medical Physics	2017 – Present
PloS One	2016 – Present
Journal of Applied Radiation and Isotopes	2016 – Present
American Journal of Nuclear Medicine and Molecular Imaging	2014 – Present
DOE Office of Science Travel Award - Workshop on Targets and Target Chemistry	2016
Certificate of AAPM TG-197 Academic Compliance	2014
ABR Medical Physics Part 1 Board Exam: Passed	2013
TTU Physics Department Overall Academic Achievement Award	2012
President of TTU Society of Physics Students ( $\Sigma\Pi\Sigma$ )	2010 – 2012
Recipient of Three TTU Physics Departmental Scholarships	2009 – 2011

## CONFERENCES ATTENDED

Iowa Society of Therapeutic Radiation Oncologists (ISTRO)	2017
World Molecular Imaging Conference (WMIC)	2015
International Conference on Isotopes (ICI)	2014
American Association of Physicists in Medicine (AAPM) Annual Meeting	2013, 2016, 2017
Society of Nuclear Medicine and Molecular Imaging (SNMMI) Annual Meeting	2013 – 2016
International Workshop on Targets and Target Chemistry (WTTC)	2012, 2014, 2016
American Physical Society (APS) - Division of Nuclear Physics Annual Meeting	2010, 2011

## REFEREED PUBLICATIONS

- Y. Zhan, S. Shi, E. Ehlerding, **S. Graves**, S. Goel, J. Engle, J. Liang, J. Tian, W. Cai. “Radiolabeled, antibody-conjugated manganese oxide nanoparticles as a platform for tumor vasculature targeted positron emission tomography and magnetic resonance imaging.” *ACS Appl. Mat. Interfaces* 9: 38304-12, 2017.
- H. F. Valdovinos, R. Hernandez, **S. A. Graves**, P. A. Ellison, T. E. Barnhart, C. P. Theuer, J. W. Engle, W. Cai, R. J. Nickles. “Cyclotron production and radiochemical separation of  $^{55}\text{Co}$  and  $^{58m}\text{Co}$  from  $^{54}\text{Fe}$ ,  $^{58}\text{Ni}$  and  $^{57}\text{Fe}$  targets.” *Appl. Rad. Isot.* 130: 90-101, 2017.
- S. A. Graves**, P. A. Ellison, H. F. Valdovinos, T. E. Barnhart, R. J. Nickles, J. W. Engle. “Half-life of  $^{51}\text{Mn}$ .” *Phys. Rev. C*, 96: 014613, 2017.
- E. B. Ehlerding, C. G. England, D. Jiang, **S. A. Graves**, L. Kang, S. Lacognata, T. E. Barnhart, W. Cai. “CD38 as a PET imaging target in lung cancer.” *Molecular Pharmaceutics*, 2017, In Print.
- S. A. Graves\*** and R. Hernandez\*, C. G. England, H. F. Valdovinos, J. J. Jeffery, T. Gregg, G. W. Severin, M. J. Merrins, R. J. Nickles, W. Cai. “Radiomanganese PET Detects Changes in Functional  $\beta$ -cell Mass in Mouse Models of Diabetes.” *Diabetes*, 2017, In Print. [\*Equal contribution]
- S. A. Graves**, R. Hernandez, H. F. Valdovinos, T. E. Barnhart, W. Cai, R. J. Nickles. “Preparation and in vivo characterization of  $^{51}\text{MnCl}_2$  for PET imaging of  $\text{Ca}^{2+}$  transport.” *Scientific Reports*, 2017, In Print.
- H. Luo, C. G. England, S. Goel, S. A. Graves, F. Ai, B. Liu, C. P. Theuer, H. C. Wong, R. J. Nickles, W. Cai. “ImmunoPET and Near-Infrared Fluorescence Imaging of Pancreatic Cancer with a Dual-Labeled Bispecific Antibody Fragment.” *Mol. Pharmaceutics*, 2017, In Print.
- J. Fonslet, S. Tietze, A. I. Jensen, **S. A. Graves**, G. W. Severin. “Optimized procedures for manganese-52: Production, separation and radiolabeling.” *Appl. Radiat. Isot.*, 2016, 121: 38-43.
- P. A. Ellison, H. F. Valdovinos, **S. A. Graves**, T. E. Barnhart, R. J. Nickles. “Spot-welding solid targets for high current cyclotron irradiation.” *Appl. Rad. Iso.*, 2016, 118: 350-353.
- S. A. Graves**, P. A. Ellison, T. E. Barnhart, H. F. Valdovinos, E. R. Birnbaum, F. M. Nortier, R. J. Nickles, J. W. Engle. “Nuclear excitation functions of proton-induced reactions ( $E_p = 35\text{-}90$  MeV) from Fe, Cu, and Al.” *Nucl. Instr. Meth. Phys. Res. B*, 2016, 386: 44-53.
- H. Im, C. G. England, L. Feng, **S. A. Graves**, R. Hernandez, R. J. Nickles, Z. Liu, D. S. Lee, S. Y. Cho, W. Cai. “Accelerated Blood Clearance Phenomenon Reduces the Passive Targeting of PEGylated Nanoparticles in Peripheral Arterial Disease.” *ACS Appl. Mater. Interfaces*, 2016, 8: 17955-17963.
- S. A. Graves\*** and B. Cox\*, M. Farhoud, T. E. Barnhart, J. J. Jeffery, K. W. Eliceiri, R. J. Nickles. “Development of a Novel Linearly-Filled Derenzo MicroPET Phantom.” *Amer. J. Nuc. Med. Mol. Imag.*, 2016, 6(3): 199-204. [\*Equal contribution]
- C. G. England, E. B. Ehlerding, R. Hernandez, B. T. Rekoske, **S. A. Graves**, H. Sun, G. Liu, D. G. McNeel, T. E. Barnhart, W. Cai. “Preclinical Pharmacokinetics and Biodistribution Studies of  $^{89}\text{Zr}$ -labeled Pembrolizumab.” *J. Nucl. Med.*, 2016, 58(1): 162-168.
- H. Sun, C. G. England, R. Hernandez, **S. A. Graves**, R. L. Majewski, A. Kamkaew, D. Jiang, T. E. Barnhart, Y. Yang, W. Cai. “ImmunoPET for assessing the differential uptake of a CD146-specific monoclonal antibody in lung cancer.” *Eur. J. Nucl. Med. Mol. Imag.*, 2016, 43: 2169-2179.

- S. Goel, F. Chen, S. Luan, H. F. Valdovinos, S. Shi, **S. A. Graves**, F. Ai, T. E. Barnhart, C. P. Theuer, W. Cai. "Engineering intrinsically zirconium-89 radiolabeled self-destructing mesoporous silica nanostructures for in vivo biodistribution and tumor targeting studies." *Adv. Sci.*, 2016, 3(1600122): 1-11.
- C. G. England, H. Im, L. Feng, F. Chen, **S. A. Graves**, R. Hernandez, H. Orbay, C. Xu, S. Y. Cho, R. J. Nickles, Z. Liu, D. S. Lee, W. Cai. "Re-assessing the enhanced permeability and retention effect in peripheral arterial disease using radiolabeled long circulating nanoparticles." *Biomaterials*, 2016, 100: 101-109.
- C. L. Brunnuell, R. Hernandez, **S. A. Graves**, I. Smit-Oistad, R. J. Nickles, W. Cai, M. E. Meyerand, M. Suzuki. "Uptake and retention of manganese contrast agents for PET and MRI in the rodent brain." *Contrast Media Mol. Imaging*, 2016, 11(5): 371-380.
- C. Xu, S. Shi, L. Feng, F. Chen, **S. A. Graves**, E. B. Ehlerding, S. Goel, H. Sun, C. G. England, R. J. Nickles, Z. Liu, T. Wang and W. Cai. "Long Circulating Reduced Graphene Oxide-Iron Oxide Nanoparticles for Efficient Tumor Targeting and Multimodality Imaging." *Nanoscale*, 2016, 8: 12683-12692.
- F. Chen, S. Goel, R. Hernandez, **S. A. Graves**, S. Shi, R. J. Nickles, W. Cai. "Dynamic Positron Emission Tomography Imaging of Renal Clearable Gold Nanoparticles." *Small*, 2016, 20: 2775-2782.
- H. Luo, C. G. England, S. Shi, **S. A. Graves**, R. Hernandez, B. Liu, C. P. Theuer, H. C. Wong, R. J. Nickles, W. Cai. "Dual-targeting of tissue factor and CD105 for preclinical PET imaging of pancreatic cancer." *Clinical Cancer Research*, 2016, 22(15): 3821-3830.
- H. Huang, R. Hernandez, J. Geng, H. Sun, W. Song, F. Chen, **S. A. Graves**, R. J. Nickles, C. Cheng, W. Cai, J. F. Lovell. "A porphyrin-PEG polymer with rapid renal clearance." *Biomaterials*, 2016, 76: 25-32.
- S. A. Graves**, R. Hernandez, J. Fonslet, C. G. England, H. F. Valdovinos, P. A. Ellison, T. E. Barnhart, D. R. Elema, C. P. Theuer, W. Cai, R. J. Nickles, G. W. Severin. "Novel Preparation Methods of  $^{52}\text{Mn}$  for ImmunoPET Imaging." *Bioconjugate Chem.*, 2015, 26(10): 2118-2124.
- S. A. Graves\*** and C. M. Lewis\*, R. Hernandez, H. F. Valdovinos, T. E. Barnhart, W. Cai, M. E. Meyerand, R. J. Nickles, M. Suzuki. " $^{52}\text{Mn}$  production for PET/MRI tracking of human stem cells expressing divalent metal transporter 1 (DMT1)." *Theranostics*, 2015, 5(3): 227-239. [\*Equal contribution]
- Y. Yang, R. Hernandez, J. Rao, Y. Lin, Y. Qu, J. Wu, C. G. England, **S. A. Graves**, P. Wang, C. M. Lewis, H. Hong, M. E. Meyerand, R. J. Nickles, X. Bian and W. Cai. "Targeting CD146 with a  $^{64}\text{Cu}$ -labeled antibody enables in vivo immunoPET imaging of high-grade gliomas." *PNAS*, 2015, 112(47): E6525-E6534.
- H. Luo, C. G. England, **S. A. Graves**, H. Sun, R. J. Nickles, W. Cai. "PET Imaging of VEGFR-2 Expression in Lung Cancer with  $^{64}\text{Cu}$ -labeled Ramucirumab." *J. Nucl. Med.*, 2015, 57(2): 285-290.
- H. Luo, R. Hernandez, H. Hong, **S. A. Graves**, Y. Yang, C. G. England, C. P. Theuer, R. J. Nickles and W. Cai. "Noninvasive brain cancer imaging with a bispecific antibody fragment, generated via click chemistry." *PNAS*, 2015, 112(41): 12806-1811.
- S. Shi, H. Hong, H. Orbay, **S. A. Graves**, Y. Yang, J. D. Ohman, B. Liu, R. J. Nickles, H. C. Wong, W. Cai. "ImmunoPET of tissue factor expression in triple-negative breast cancer with a radiolabeled antibody Fab fragment." *EJNMMI*, 42:1295-1303, 2015.
- R. Hernandez, A. Czerwinski, R. Chakravarty, **S. A. Graves**, Y. Yang, C. G. England, R. J. Nickles, F. Valenzuela, W. Cai. "Evaluation of two novel  $^{64}\text{Cu}$ -labeled RGD peptide radiotracers for enhanced PET imaging of tumor integrin  $\alpha_v\beta_3$ ." *EJNMMI*, 2015, 42(12): 1859-1868.
- S. Shi, H. Orbay, Y. Yang, **S. A. Graves**, T. R. Nayak, H. Hong, R. Hernandez, H. Luo, S. Goel, C. P. Theuer, R. J. Nickles, W. Cai. "PET Imaging of Abdominal Aortic Aneurysm with  $^{64}\text{Cu}$ -Labeled Anti-CD105 Antibody Fab Fragment." *J. Nucl. Med.*, 2015, 56(6): 927-932.
- H. Luo, H. Hong, M. R. Slater, **S. A. Graves**, S. Shi, Y. Yang, R. J. Nickles., F. Fan, W. Cai. "PET of c-Met in Cancer with  $^{64}\text{Cu}$ -Labeled Hepatocyte Growth Factor." *J. Nucl. Med.*, 2015, 56(5): 758-763.
- H. F. Valdovinos, R. Hernandez, T. E. Barnhart, **S. Graves**, W. Cai, R. J. Nickles. "Separation of cyclotron-produced  $^{44}\text{Sc}$  from a natural calcium target using a dipentyl pentylphosphonate functionalized extraction resin." *Appl. Radiat. Isot.*, 2015, 95: 23-29.
- F. Chen, H. Hong, S. Goel, **S. A. Graves**, H. Orbay, E. B. Ehlerding, C. P. Theurer, R. J. Nickles, W. Cai. "*In vivo* tumor vasculature targeting of CuS-MSN based theranostic nanomedicine." *ACS Nano*, 2015, 9(4): 3926-34.

- H. Hong, Y. Yang, S. Shi, **S. A. Graves**, L. K. Krasteva, R. J. Nickles, M. Yang, W. Cai. "PET of follicle-stimulating hormone receptor: broad applicability to cancer imaging." *Molecular Pharmaceutics*, 2015, 12: 403-410.
- H. Hong, F. Wang, Y. Zhang, **S. A. Graves**, S. B. Eddine, Y. Yang, C. P. Theuer, R. J. Nickles, X. Wang, W. Cai. "Red fluorescent zinc oxide nanoparticle: a novel platform for cancer targeting." *ACS Appl. Mater. Interfaces*, 2015, 7(5): 3373-81.
- J. Rieffel, F. Chen, J. Kim, G. Chen, W. Shao, S. Shao, U. Chitgupi, R. Hernandez, **S. A. Graves**, R. J. Nickles, P. N. Prasad, C. Kim, W. Cai, J. F. Lovell. "Hexamodal imaging with porphyrin-phospholipid-coated upconversion nanoparticles." *Adv. Materials*, 2015, 27(10): 1785-90.
- H. Hong, T. R. Nayak, S. Shi, **S. A. Graves**, B. C. Fliss, T. E. Barnhart, W. Cai. "Generation and Screening of Monoclonal Antibodies for ImmunoPET Imaging of IGF1R in Prostate Cancer." *Mol. Pharmaceutics*, 2014, 11: 3624-3630.
- P. D. O'Malley, D. W. Bardayan, A. S. Adekola, et al.. "Search for a resonant enhancement of the  ${}^7\text{Be} + d$  reaction and primordial  ${}^7\text{Li}$  abundances." *Physical Review C*, 2011, 84: 042801.

*Submitted or Under Revision*

- W. Cai, et al.. "Intrinsically Zirconium-89-Labeled Manganese Oxide Nanoparticles for In Vivo Dual-Modality Positron Emission Tomography and Magnetic Resonance Imaging." *Adv. Health. Mat.*, 2017, under revision.

**PROCEEDINGS**

- P. A. Ellison, **S. A. Graves**, D. Murali, O. T. De Jesus, T. E. Barnhart, B. R. Thomadsen, T. Speer, R. J. Nickles. "Radiobromine production, isolation and radiosynthesis for the development of a novel prostate cancer radiotherapeutic agent." *International Workshop on Targets and Target Chemistry, AIP Conference Proceedings*, 1845(1): 020007, 2017.
- H. F. Valdovinos, **S. Graves**, P. Ellison, T. Barnhart, R. J. Nickles. "Earth, air, fire and water: A targetry quartet." *International Workshop on Targets and Target Chemistry, AIP Conference Proceedings*, 1845(1): 020022, 2017.
- H. F. Valdovinos, **S. Graves**, T. Barnhart, R. J. Nickles. "Simplified radiochemical separations for the production of high specific activity  ${}^{61}\text{Cu}$ ,  ${}^{64}\text{Cu}$ ,  ${}^{86}\text{Y}$  and  ${}^{55}\text{Co}$ ." *Workshop on Targets and Target Chemistry, AIP Conference Proceedings*, 1845(1): 020021, 2017.
- H. F. Valdovinos, R. Hernandez, S. Goel, **S. A. Graves**, T. E. Barnhart, W. Cai, R. J. Nickles. "Auger electron-based targeted radioimmunotherapy with  ${}^{58m}\text{Co}$ , a feasibility study." *Mexican Symposium on Medical Physics, AIP Conference Proceedings*, 2016.
- H. F. Valdovinos, **S. Graves**, T. Barnhart, R. J. Nickles. " ${}^{55}\text{Co}$  separation from proton irradiated metallic nickel." *Mexican Symposium on Medical Physics, AIP Conference Proceedings*, 1626: 217, 2014.

**INVITED TALKS**

- S. A. Graves**. "Preparation of Positron-Emitting Isotopes of Manganese and Applications Thereof." University of Wisconsin - Madison, Medical Physics Seminar, 2016.
- S. A. Graves**. "Production and Distribution of Long-Lived PET Isotopes." Los Alamos National Laboratory, IIAC R&D Seminar, 2015.

**ORAL PRESENTATIONS**

- S. Graves**, R. Hernandez, P. Ellison, T. Barnhart, J. Engle, W. Cai, R. Nickles. "Preclinical Dosimetry of  ${}^{51}\text{Mn}$  for Functional Beta Cell Mass Quantification PET Studies." *AAPM Annual Meeting, TH-AB-708-8*, 2017.
- D. Jiang, C. England, E. Ehlerding, **S. Graves**, T. Barnhart, W. Cai. "ImmunoPET imaging of CD38 expression in liver cancer using  ${}^{64}\text{Cu}$ -labeled daratumab." *J. Nucl. Med., SNMMI 620*, 2017.
- D. Jiang, C. England, E. Ehlerding, **S. Graves**, T. Barnhart, W. Cai. "PET imaging for assessing the differential uptake of a CD20-specific monoclonal antibody in B Cell lymphoma." *J. Nucl. Med., SNMMI 180*, 2017.
- D. Jiang, H-J. Im, C. England, E. Ehlerding, **S. Graves**, T. Barnhart, W. Cai. "ImmunoPET imaging of HER2 expression in ovarian cancer using  ${}^{64}\text{Cu}$ -labeled pertuzumab." *J. Nucl. Med., SNMMI 689*,

2017.

- E. Ehlerding, C. England, D. Jiang, **S. Graves**, T. Barnhart, W. Cai. "PET imaging of CD38 expression in non-small cell lung cancer xenografts." *J. Nucl. Med.*, SNMMI 619, 2017.
- R. Hernandez, R. Zhang, A. Pichuk, J. Grudzinski, **S. Graves**, J. Engle, J. Weichert. "Alkylphosphocholine chelates for preclinical targeted PET imaging of cancer." *J. Nucl. Med.*, SNMMI 918, 2017.
- D. Jiang, C. England, E. Ehlerding, **S. Graves**, R. Hernandez, W. Cai. "Targeting programmed cell death 1 receptor (PD-1) expression in lung cancer using a humanized mouse model." *J. Nucl. Med.*, SNMMI 179, 2017.
- S. A. Graves**, R. Hernandez, G. W. Severin, H. F. Valdovinos, T. Gregg, J. J. Jeffery, T. Barnhart, M. J. Merrins, W. Cai, R. J. Nickles. "Preclinical Imaging of Pancreatic  $\beta$ -Cells with  $^{52}\text{Mn}$  and Production of  $^{51}\text{Mn}$  by  $^{54}\text{Fe}(p,\alpha)$  for Clinical Translation." WTTC16, 2016.
- H. F. Valdovinos, **S. Graves**, T. E. Barnhart, R. J. Nickles. "Production of high-specific activity  $^{58m}\text{Co}$  from deuteron-irradiated  $^{57}\text{Fe}$  targets." WTTC16, 2016.
- P. A. Ellison, **S. A. Graves**, D. Murali, O. T. Dejesus, T. E. Barnhart, B. R. Thomadsen, T. Speer, R. J. Nickles. "Radiobromine production, isolation, and radiosynthesis for the development of a novel prostate cancer radiotherapeutic agent." WTTC16, 2016.
- H. Valdovinos, **S. Graves**, P. Ellison, T. Barnhart, R. Nickles. "Earth, Air, Fire and Water: A Targetry Quartet." WTTC16, 2016.
- H. F. Valdovinos, **S. Graves**, T. Barnhart, R. J. Nickles. "Simplified and reproducible radiochemical separations for the production of high specific activity  $^{61}\text{Cu}$ ,  $^{64}\text{Cu}$ ,  $^{86}\text{Y}$  and  $^{55}\text{Co}$ ." WTTC16, 2016.
- S. Graves**, R. Hernandez, C. England, H. Valdovinos, J. Jeffery, T. Barnhart, W. Cai, R. Nickles. "Imaging Pancreatic  $\beta$ -Cell Function with  $^{51/52}\text{Mn}$ -PET." AAPM Annual Meeting, 2016.
- S. Graves**, B. Cox, M. Farhoud, H. Valdovinos, J. Jeffery, K. Eliceiri, T. Barnhart, R. Nickles. "Novel Linearly-Filled Derenzo PET Phantom Design." AAPM Annual Meeting, 2016.
- S. A. Graves**, H. F. Valdovinos, T. E. Barnhart, R. J. Nickles. "Novel  $^{51}\text{Mn}$  production methods for calcium channel transport based applications." *J. Nucl. Med.*, 2016.
- S. A. Graves**, R. Hernandez, H. F. Valdovinos, T. E. Barnhart, W. Cai, R. J. Nickles. "Probing the impact of isoflurane on acute pancreatic function with  $^{52}\text{Mn}$ -PET." *J. Nucl. Med.*, 2016.
- R. Hernandez, **S. A. Graves**, C. G. England, J. J. Jeffery, R. J. Nickles, W. Cai. "Radio-manganese PET imaging of pancreatic beta cells." *J. Nucl. Med.*, SNMMI 6, 2016.
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