Peer-Reviewed Original Research

1. Liu H*, **Wu J**, Shi L, Liu Y, Miller E, Sinusas AJ, Liu YH, Liu C*. Post-reconstruction attenuation correction for SPECT myocardium perfusion imaging facilitated by deep learning-based attenuation map generation. *Journal of Nuclear Cardiology*. 2021. In press.

2. **Wu J***, Liu H, Ye Q, Gallezot JD, Naganawa M, Miao T, Lu Y, Chen MK, Esserman DA, Kyriakides TC, Carson RE, Liu C*. Generation of parametric K_i images for FDG PET using two 5-min scans. *Medical Physics*. 2021 Jul 20. Online ahead of print.

3. Wang R, Liu H, Toyonaga T, Shi L, **Wu J**, Onofrey JA, Tsai YJ, Naganawa M, Ma T, Liu Y, Chen MK, Mecca AP, O'Dell RS, van Dyck CH, Carson RE, Liu C*. Generation of Synthetic PET Images of Synaptic Density and Amyloid from ^{18}F-FDG Images Using Deep Learning. *Medical Physics*. 2021 Jul 5. Online ahead of print.

4. Liu H*, **Wu J**, Miller EJ, Liu C, Liu Y, Liu YH*. Diagnostic accuracy of stress-only myocardial perfusion SPECT improved by deep learning. *European Journal of Nuclear Medicine and Molecular Imaging*. 2021, 48(9):2793-2800.

5. Tsai YJ*, Lu Y, **Wu J**, Liu H, Schleyer P, Casey M, Liu C. Performance Evaluation of Amplitude and Phase Respiratory Gating Methods on Continuous-Bed-Motion Whole-Body PET Studies. *IEEE Transactions on Radiation and Plasma Medical Sciences*. 2021 Apr 23. Online ahead of print.

6. Toczek J, Hillmer AT, Han J, Liu C, Peters D, Emami H, **Wu J**, Esterlis I, Cosgrove KP, Sadeghi MM*. FDG PET imaging of vascular inflammation in post-traumatic stress disorder: A pilot case-control study. *Journal of Nuclear Cardiology*. 2021, 28(2):688-694.

7. Liu H, **Wu J***, Lu W, Onofrey JA, Liu YH, Liu C*. Noise reduction with cross-tracer and cross-protocol deep transfer learning for low-dose PET. *Physics in Medicine and Biology*. 2020, 65(18):185006.

8. **Wu J**#, Boutagy NE#, Cai Z, Lin SF, Zheng MQ, Feher A, Stendahl JC, Kapinos M, Gallezot JD, Liu H, Mulnix T, Zhang W, Lindemann M, Teng JK, Miller EJ, Huang Y, Carson RE, Sinusas AJ, Liu C*. Feasibility study of PET dynamic imaging of [18F] DHMT for quantification of reactive oxygen species in the myocardium of large animals. *Journal of Nuclear Cardiology*. 2020 May 15. doi: 10.1007/s12350-020-02184-3. Online ahead of print. (# contributed equally)

9. Liu H, Thorn S, **Wu J***, Fazzone-Chettiar R, Sandoval V, Miller EJ, Sinusas AJ, Liu YH*. Quantification of myocardial blood flow (MBF) and reserve (MFR) incorporated with a novel segmentation approach: Assessments of quantitative precision and the lower limit of normal MBF and MFR in patients. *Journal of Nuclear Cardiology*. 2020 Jul 26. doi: 10.1007/s12350-020-02278-y. Online ahead of print.

10. Liu H, **Wu J***, Sun JY, Wu TH, Fazzone-Chettiar R, Thorn S, Sinusas AJ, Liu YH*. A robust segmentation method with triple-factor non-negative matrix factorization for myocardial blood flow quantification from dynamic ^{82}Rb positron emission tomography. *Medical Physics*. 2019, 46(11): 5002-5013.

11. Boutagy NE, Ravera S, Papademetris X, Onofrey JA, Zhuang ZW, **Wu J**, Feher A, Stacy MR, French BA, Annex BH, Carrasco N, Sinusas AJ*. Noninvasive in vivo quantification of adeno-associated virus serotype 9-mediated expression of the sodium/iodide symporter under hindlimb ischemia and neuraminidase desialylation in skeletal muscle using single-photon emission computed tomography/computed tomography. *Circulation: Cardiovascular Imaging*. 2019, 12(7): e009063.

12. Shi L, Lu Y, **Wu J**, Gallezot JD, Boutagy N, Thorn S, Sinusas AJ, Carson RE, Liu C*. Direct list mode parametric reconstruction for dynamic cardiac SPECT. *IEEE Transactions on Medical Imaging*. 2019, 39(1): 119-128.

13. Zonouz TH, **Wu J**, Sandoval VM, Allahverdi SH, Fazzone-Chettiar R, Liu YH*. A new approach to quantification of end-diastolic volume and ejection fraction from SPECT

equilibrium radionuclide angiocardiography: methodology and phantom validation. *Journal of Medical and Biological Engineering*. 2019, 39(3):393-402.

14. Lu Y*, Gallezot JD, Naganawa M, Ren S, Fontaine K, **Wu J**, Onofrey JA, Toyonaga T, Boutagy N, Mulnix T, Panin VY, Casey ME, Carson RE, Liu C. Data-driven voluntary body motion detection and non-rigid event-by-event correction for static and dynamic PET. *Physics in Medicine and Biology*. 2019, 64(6): 065002.

15. **Wu J**, Gallezot JD, Lu Y, Ye Q, Liu H, Esserman DA, Kyriakides TC, Thorn SL, Zonouz TH, Liu YH, Lampert RJ, Sinusas AJ, Carson RE, Liu C*. Simplified quantification and acquisition protocol of ^{123}I-mIBG dynamic SPECT. *Journal of Nuclear Medicine*. 2018, 59(10):1574-1580.

16. Ye Q, **Wu J**, Lu Y, Naganawa M, Gallezot J, Ma T*, Liu Y, Tanoue L, Detterbeck F, Blasberg J, Chen MK, Casey M, Carson RE, Liu C. Improved discrimination between benign and malignant LDCT screening-detected lung nodules with low-dose dynamic ^{18}F-FDG PET. *Physics in Medicine and Biology*. 2018, 63(17): 175015.

17. Boutagy NE[#], **Wu J**[#], Cai Z, Zhang W, Booth CJ, Pfau D, Mulnix T, Liu Z, Miller EJ, Young LH, Carson RE, Huang Y, Liu C, Sinusas AJ. In vivo reactive oxygen species detection with a novel PET tracer, ^{18}F-DHMT, allows for early detection of anthracycline-induced cardiotoxicity in rodents. *JACC: Basic to Translational Science*. 2018, 3(3): 378-390. ([#] contributed equally)

18. **Wu J*,** Liu H, Zonouz TH, Sandoval VM, Mohy-Ud-Din H, Lampert RJ, Sinusas AJ, Liu C, Liu YH*. A blind deconvolution method incorporated with anatomical-based filtering for partial volume correction: validations with ^{123}I-mIBG cardiac SPECT/CT. *Medical Physics*. 2017, 44(12): 6435-6446.

19. Zhang W, Cai Z*, Li L*, Ropchan J, Lim K, Boutagy NE, **Wu J**, Stendahl JC, Chu W, Gropler R, Sinusas AJ, Liu C, Huang Y. Optimized and automated radiosynthesis of [^{18}F]DHMT for translational imaging of reactive oxygen species with positron emission tomography. *Molecules*. 2016, 21(12): 1696.

20. **Wu J,** Lin SF, Gallezot JD, Chan C, Prasad R, Thorn SL, Stacy MR, Huang Y, Zonouz TH, Liu YH, Lampert RJ, Carson RE, Sinusas AJ, Liu C*. Quantitative analysis of dynamic ^{123}I-mIBG SPECT imaging data in healthy humans with a population-based metabolite correction method. *Journal of Nuclear Medicine*. 2016, 57(8):1226-1232.

21. Chan C*, Dey J, Grobshtein Y, **Wu J**, Liu YH, Lampert R, Sinusas AJ, Liu C*. The impact of system matrix dimension on small FOV SPECT reconstruction with truncated projections. *Medical Physics*. 2016, 43(1): 213-224.

22. 余建概, 王石, **吴婧**, 马天予*, 刘亚强. 基于模拟点源测量的多针孔 SPECT 精确迭代重. *原子能科学技术*. 2016, 50 (2), 349-356.

23. Wei Q, Wang S, Ma T*, **Wu J**, Liu H, Xu T, Xia Y, Fan P, Lyu Z, Liu Y. Performance evaluation of a compact PET/SPECT/CT tri-modality system for small animal imaging applications. *Nuclear Instruments and Methods in Physics Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*. 2015, 786: 147-154.

24. Luo S, **Wu J**, Zhang B, Chen G. Fitting Correction Method of Ring Artifacts for Reconstructing Cone-Beam CT Images. *Transactions of Nanjing University of Aeronautics & Astronautics*, 2010, 27: 34-38.

25. **Wu J,** Liu Y, Ma T*, Wei Q, Wang S, Cheng J. GATE simulation based feasibility studies of in-beam PET monitoring in C-12 beam cancer therapy. *Nuclear Science and Techniques*. 2010, 21(5): 275-280.

Chapters, Books, and Reviews

26. **Wu J*,** Liu C*. Recent advances in cardiac SPECT instrumentation and imaging methods. (Topical Review). *Physics in Medicine and Biology.* 2019, 64(6): 06TR01.

Case Reports, Technical Notes, Letters

27. Toczek J[#], **Wu J**[#], Hillmer AT, Han J, Esterlis I, Cosgrove KP, Liu C, Sadeghi MM*. Accuracy of arterial [^{18}F]-Fluorodeoxyglucose uptake quantification: A kinetic modeling study. (Brief Report). *Journal of Nuclear Cardiology.* 2020, 27(5): 1578–1581. ([#] contributed equally)

Patents

28. Sinusas AJ, Liu C, **Wu J**, Carson RE, Chan C, Prasad R. "Imaging Methods", 2016, U.S. Provisional Patent Application No. 62/329,612, April 29, 2016.

Conference Papers and Abstracts

29. Liu Z, Thorn S, **Wu J**, Guo X, de Rubio Cruz PG, Carson RE, Sinusas AJ, Liu C. Assessment of lower extremities flow using dynamic Rb-82 PET: Acquisition protocols and quantification methods. *Journal of Nuclear Medicine*. 62 (supplement 1): 53. (2021)

30. Guo X, **Wu J**, Chen MK, Onofrey J, Pang Y, Pigg D, Casey M, Dvornek N, Liu C. Inter-pass motion correction for whole-body dynamic parametric PET imaging. *Journal of Nuclear Medicine*. 62 (supplement 1): 1421. (2021)

31. **Wu J**, Young BD, Liu H, Sadeghi MM, Miller EJ, Liu C. Generation of parametric Ki images using FDG PET dual-time-point imaging data for cardiac sarcoidosis. *Annual Scientific Sessions of the American Society of Nuclear Cardiology*, Washington, DC, U.S. (2020)

32. **Wu J**, Liu H, Ye Q, Gallezot JD, Lu Y, Chen MK, Carson RE, Liu C. Generation of parametric Ki images for FDG PET using dual-time-point scans. *Journal of Nuclear Medicine*. 60 (supplement 1): 106. (2019)

33. **Wu J**, Daube-Witherspoon M, Liu H, Lu W, Onofrey J, Karp J, Liu C. Deep learning-based denoising for PennPET Explorer data. *Journal of Nuclear Medicine*. 60 (supplement 1): 574. (2019)

34. Liu H, **Wu J**, Lu W, Onofrey J, Liu YH, Liu C. Noise reduction with cross-tracer transfer deep learning for low-dose oncological PET. *Journal of Nuclear Medicine*. 60 (supplement 1): 108. (2019)

35. Shi L, Boutagy N, Feher A, **Wu J**, Greco K, Sinusas A, Liu C. SPECT/CT Imaging of Intramyocardial Blood Volume with 99mTc-RBC for Detection of Doxorubicin-induced Microvascular Cardiotoxicity in Dogs. *Journal of Nuclear Medicine*. 60 (supplement 1): 237. (2019)

36. **Wu J**, Boutagy N, Feher A, Romito E, Liu Z, Lin SF, Gallezot JD, Kapinos M, Teng JK, Carson R, Sinusas A, Liu C. Dynamic SPECT imaging of 123I-mIBG for early detection of doxorubicin-induced cardiotoxicity in dogs. *Journal of Nuclear Medicine*. 59 (supplement 1): 101. (2018)

37. Liu H, **Wu J**, Sun JY, Wu TH, Razzone-Chettiar R, Thorn S, Sinusas A, Liu YH. Automatic segmentation with triple-factor non-negative matrix factorization method improves precision of myocardial blood flow quantification from dynamic 82Rb PET. *Journal of Nuclear Medicine*. 59 (supplement 1): 1710. (2018)

38. Ye Q, Lyu Z, Yao S, Dong Y, Liu H, **Wu J**, Liu Y, Tianyu Ma*. Direct 4D Patlak Reconstruction in Dynamic FDG PET Imaging with Population-based Input Function. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2018)

39. Shi L, **Wu J**, Lu Y, Gallezot JD, Thorn S, Sinusas AJ, Carson RE, Liu C. GPU-based List-mode Direct Parametric Reconstruction for Dynamic Cardiac SPECT. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2017)

40. Ye Q, **Wu J**, Lu Y, Naganawa M, Gallezot JD, Ma T, Liu Y, Tanoue L, Detterbeck F, Blasberg J, Chen M, Casey M, Carson RE, Liu C. Improved discrimination between benign and malignant

screening-detected lung nodules with dynamic FDG PET. *IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS-MIC)*. (2017)

41. Lu Y, Ren S, Gallezot JD, Naganawa M, Fontaine K, **Wu J**, Mulnix T, Panin V, Casey M, Carson RE, Liu C. Non-rigid Event-by-event Body Motion Correction with Automated Data-driven Motion Detection for Static and Dynamic PET. *IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS-MIC)*. (2017)

42. Boutagy N, **Wu J**, Booth CJ, Feher A, Cai Z, Zhang W, Mikush N, Wang X, Miller EJ, Carson RE, Huang Y, Liu C, Sinusas AJ. In vivo reactive oxygen species detection with the novel PET tracer, 18F-DHMT, allows for early detection of chemotherapy-induced cardiotoxicity in rodents. *ICNC (Nuclear Cardiology and Cardiac CT)*. (2017)

43. **Wu J**, Liu H, Mohy-ud-Din H, Thorn S, Stacy M, Zonouz TH, Liu C, Sinusas A, Lampert R, Liu YH. A novel blind deconvolution method incorporated with anatomical-based filtering for partial volume correction: validations with 123I-mIBG cardiac SPECT/CT imaging. *Journal of Nuclear Medicine*. 57 (supplement 2): 144. (2016)

44. Zhang W, Cai Z, Ropchan J, **Wu J**, Boutagy N, Stendahl J, Chu W, Gropler R, Sinusas AJ, Carson RE, Liu C, Huang Y. Optimized radiosynthesis of a ROS PET imaging probe for translational study. *Journal of Nuclear Medicine*. 57 (supplement 2): 1127. (2016)

45. Liu H, Ma T, **Wu J**, Chen S, Wang S, Wu Z, Xia Y, Liu Y. Dedicated cardiac SPECT imaging with multi-pinhole collimators on a clinical scanner. *Journal of Nuclear Medicine*. 57 (supplement 2): 1951. (2016)

46. Liu C, Boutagy N, Cai Z, **Wu J**, Pfau D, Lu Y, Chu W, Gropler R, Miller E, Carson RE, Huang Y, Sinusas AJ. PET imaging of reactive oxygen species for doxorubicin-induced cardiotoxicity: rat and dog studies. *Journal of Nuclear Medicine*. 57 (supplement 2): 394. (2016)

47. Liu H, **Wu J**, Wang S, Liu Y, Ma T*. Regularized MLEM reconstruction with a strong anatomical prior using newton iterative algorithm. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2016)

48. **Wu J**, Lin SF, Gallezot JD, Huang Y, Carson RE, Zonouz TH, Liu YH, Lampert RJ, Sinusas AJ, Liu C. Quantitative dynamic SPECT imaging of 123I-mIBG in normal human subjects with a population-based plasma metabolite correction. *Journal of Nuclear Medicine*. 56 (supplement 3): 1768. (2015)

49. Liu H, **Wu J**, Chen S, Wang S, Liu Y, Ma T*. Development of stationary dedicated cardiac SPECT with multi-pinhole collimators on a clinical scanner. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2015)

50. Liu YH, **Wu J**, Liu C, Sinusas AJ. Planar versus SPECT quantification of the heart-to-mediastinum ratio from I-123-MIBG sympathetic cardiac SPECT imaging: Accuracy as assessed by computer simulations. *ICNC (Nuclear Cardiology and Cardiac CT)*. (2015)

51. **Wu J**, Chen S, Liu Y, Wang S, Ma T. Simultaneous PET/SPECT imaging with shared detector on an existing preclinical PET scanner. *Journal of Nuclear Medicine*. 55 (supplement 1): 494. (2014)

52. **Wu J**, Ma T*, Liu H, Liang J, Wang S, Liu Y, Cheng J. Studies of DOI estimation method in LOR data for 3D PET list-mode reconstruction. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2014)

53. Yu Y, Wang S, Wang X, Xia Y, Shang H, **Wu J**, Wang Q, Liu Y, Ma T*. Impact of depth-of-interaction on image resolution in long axial-FOV PET. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2014)

54. Wei Q, Wang S, Dai T, Ma T, Liu H., **Wu J**, Jiang N, Wu Z, Liu Y*. Geometrical calibration of a PET-scanner-based multipinhole SPECT using LYSO background radiation. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2014)

55. Liu H, Wang S, Ma T*, **Wu J**, Chen S, Wei Q, Dai T, Liu Y. Feasibility studies of a high sensitivity, stationary dedicated cardiac SPECT with multi-pinhole collimators on a clinical dual-head scanner. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2014)

56. **Wu J**, Chen S, Gong G, Jiang N, He F, Wang S, Liu Y, Cheng J, Ma T*. Animal SPECT imaging on a shared PET/SPECT ring detector with elliptical-pinhole collimator. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2013)

57. **Wu J**, Sun X, Lou K, Xia Y, Ma T*, Shao Y*. Imaging performance of DOI measurable PET systems for breast imaging: Monte Carlo simulation studies. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*, (2274-2277). (2012)

58. **Wu J**, Ma T*, Liu H, Xia Y, Chen S, Wang S, Liu Y, Cheng J. Feasibility studies of simultaneous PET and SPECT dual-tracer imaging with a stationary multi-pinhole collimator inserted to animal PET detector. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*, (2788-2791). (2012)

59. **Wu J**, Ma T*, Dai T, Liu H, Wang S, Liu Y, Cheng J. Feasibility studies of animal SPECT imaging with a stationary multi-pinhole collimator inserted to animal PET detector ring. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*, (3646-3649). (2011)

60. Dai T, Ma T, Liu H, Cui J, Liu Y, Wei Q, **Wu J**, Wang S, Jin Y. Low-cost high-resolution animal SPECT imaging on a clinical SPECT scanner. *BioMedical Engineering and Informatics (BMEI)*. (2010)

61. Ma T*, Dai T, Liu H, Cui J, Wang S, Liu Y, Wei Q, **Wu J**, Jin Y. Half-millimeter animal SPECT imaging on a clinical SPECT scanner with highly flexible collimator design. *IEEE Nuclear Science Symposium and Medical Imaging Conference Proceedings (NSS/MIC)*. (2010)