

Publications in 2022-2023 (9)

1. Peng Chen[§], **Matthew L. Scarpelli**, Debbie R. Healey, Shwetal Mehta, C. Chad Quarles. MRI and Amino Acid PET Detection of Whole-Brain Tumor Burden. *Frontiers in Oncology Volume 13 - 2023*. doi: 10.3389/fonc.2023.1248249
2. Shen X[§], Ozen AC, Monsivais H[§], Sunjar A[§], Ilbey S, Zheng W, Du Y, Chiew M, **Emir UE***. High-Resolution 3D Ultra-Short Echo Time MRI with Rosette k-Space Pattern for Brain Iron Content Mappin. *Journal of Trace Elements in Medicine and Biology*, 2023.
3. Alhulail AA[§], Servati M[§], Ooms N, Akin O, Dincer A, Thomas MA, Dydak U, **Emir UE***. In Vivo Renal Lipid Quantification by Accelerated Magnetic Resonance Spectroscopic Imaging at 3T: Feasibility and Reliability Study. *Metabolites*. 2022 Apr 23;12(5):386. PubMed Central PMCID: PMC9146867.
4. Zhang X, Wells EM, Specht AJ, Weisskopf MG*, Weuve J*, **Nie LH***. In Vivo Quantification of Strontium in Bone among Adults using Portable X-ray Fluorescence. *J Trace Elem Med Biol*. 74(2022)127077
5. Specht AJ, Zhang X, Young A, Nguyen VT, Christiani DC, Ceballos DM, Allen JG, Weuve J*, **Nie LH***, Weisskopf MG* (2022). Validation of In Vivo Toenail Measurements of Manganese and Mercury using a Portable X-ray Fluorescence Device. *J Expo Sci Environ Epidemiol*. 32(2022)427-433
6. Webb AN, Spiers KM, Falkenberg G, Gu H, Dwibhashyam SS, Du Y, Zheng W, **Nie LH***. Distribution of Pb and Se in Mouse Brain following Subchronic Pb Exposure by using Synchrotron X-ray Fluorescence (XRF). *Neurotoxicology*. 88(2022)106-115
7. Rolle-McFarland D, Liu Y, Mostafaei F, Zauber SE, Zhou Y, Li Y, Fan Q, Zheng W, **Nie LH***, Wells EM*. The Association of Bone and Blood Manganese with Motor Function in Chinese Workers. *Neurotoxicology*. 88(2022)224-230
8. Perez WD, **Perez-Torres CJ***. Neurocognitive and radiological changes after cranial radiation therapy in humans and rodents: a systematic review, *International Journal of Radiation Biology* 99 (2), 119-137
9. **Parker, Jason G.*** ; Servati, Mahsa ; Diller, Emily E. ; Cao, Sha ; Ho, Chang ; Lober, Robert ; Cohen-Gadol, Aaron, Targeting intra-tumoral heterogeneity of human brain tumors with in vivo imaging: A roadmap for imaging genomics from multiparametric MR signals. *Medical physics (Lancaster)*, 2023, Vol.50 (4), p.2590-2606

Abstracts (Presentations) in 2022-2023 (54)

1. Chen P[§], Healey D, Mehta S, Quarles C, and **Scarpelli M**. Quantifying The Accuracy Of T1- And T2- Weighted MRI For Detecting Whole Brain Tumor Burden. Oral Presentation. *American Association of Physicists in Medicine Annual Meeting 2022*.
2. Deng-Yuan Chang[§], Joseph P. Speth[§], MacKenzie R. Coon[§], Talia J. Thornton^u, and **Matthew L. Scarpelli**. Non-invasive MRI evaluation of tumor-associated macrophages in a dual tumor mouse model. *American Association of Physicists in Medicine Annual Meeting 2023*.
3. Peng Chen[§], Deborah Healey, Shwetal Mehta, Chad Quarles, and **Matthew L Scarpelli**. Assessing the detection capabilities of combined PET and MRI in human glioblastoma xenografts. *Best in Physics at the American Association of Physicists in Medicine Annual Meeting 2023*.
4. Carson Mann^u, Peng Chen[§], Deborah Healey, Schwetal Mehta, Chad Quarles, and **Matthew L Scarpelli**. Optimal imaging time for 18F-fluciclovine PET in gliomas. *American Association of Physicists in Medicine Annual Meeting 2023*.
5. MacKenzie Coon[§] and **Matthew L Scarpelli**. Assessing the sensitivity of 4T1 and SKBR3 cancer cells to radiotherapy following exposure to iron oxide nanoparticles. *Purdue School of Health Sciences Retreat 2023*.

6. Joe Speth[§], Losha Dasol Jung, MacKenzie Coon[§], Talia Thornton^u, Philip Low, **Matthew L Scarpelli**. MRI Contrast Agent for assessing folate receptor positive myeloid-derived suppressor cells within the tumor microenvironment. *Purdue School of Health Sciences Retreat 2023*.
7. Kaubfar Changkanjana^u, Talia Thornton^u, Sidney Schwartz^u, **Matthew Scarpelli**. Testing Iron Nanoparticle Sensitivity to 4T1 cells using Trypan Blue Clonogenic Assay. *Purdue Office of Undergraduate Research Conference 2023*.
8. Talia Thornton^u, MacKenzie Coon[§], and **Matthew Scarpelli**. Development of a clonogenic assay method for assessing 4T1 tumor cell response to radiation. *Purdue Institute for Cancer Research, Cancer Research Day 2023*.
9. Nossa G[§], Monsivais H[§], Hong S, Park T, Erdil F[§], Shen X[§], Ozen AC, Ibey S, Chiew M, Steinwurzle C, Kourtzi Z, Shih I, **Emir UE***. Fast In Vivo 23Na Imaging and T2* Sub-millimeter fMRI Acquisition using a dual-echo Rosette k-space trajectory at 3T. *Proceedings 31st Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2023*. Oral presentation.
10. Monsivais H[§], Nossa G[§], Hong S, Park T, Erdil F[§], Shen X[§], Ozen AC, Ibey S, Chiew M, Dydak U, **Emir UE***. Ultrashort-echo time magnetization transfer (UTE-MT) for brain iron imaging. *Proceedings 31st Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2023*. Power Pitch.
11. Farley N[§], **Emir UE***, Rosen M, Koonjoo N. Neural Network Reconstruction of Human Density-Weighted Concentric Ring Trajectory MRSI Data acquired at 3T. *64th ENC Conference, 2023*. Oral Presentation.
12. Monsivais H[§], Nossa G[§], Hong S, Park T, Erdil F[§], Shen X[§], Ozen AC, Ibey S, Chiew M, Dydak U, **Emir UE***. Ultrashort-echo time magnetization transfer (UTE-MT) for brain iron imaging. *Quantitative MRI Conference, 2022*. Oral Presentation.
13. Bozyski B[§], Shen X[§], Ozen AC, Ibey S, Clark W, Chiew M, Thomas A, Dydak U, **Emir UE***. Comparison of Compressed Sensing Accelerated Rosette UTE and Conventional 31P 3D MRSI at 3T in Leg Muscle. *Proceedings 31st Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2023*.
14. Farley N[§], Bozyski B[§], Dydak U, **Emir UE***. Fast 3D 31P MRSI Using Novel Rosette Petal Trajectory at 3T with x4 Accelerated Compressed Sensing. *Proceedings 31st Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2023*.
15. Ozyurt O^p, Rotaru D^p, Farley N[§], Kourtzi Z, Williams G, **Emir UE***. Implementation of ZOOM MRSI at 7T for High-resolution GABA and Glutamate mapping. *Proceedings 31st Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2023*.
16. Shen X[§], Ozen AC, Ibey S, Monsivais H[§], Karnik A[§], Susnjar A[§], Chiew M, **Emir UE***. High-Resolution 3D Ultra-Short Echo Time MRI with Rosette k-Space Pattern for Brain Iron Content Mapping. *Proceedings 30th Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2022*.
17. Karnik A[§], Monsivais H[§], Susnjar A[§], Shen X[§], Ozen AC, Ibey S, Chiew M, **Emir UE***. Quantitative Susceptibility Mapping (QSM) Using High-resolution Ultra-Short Echo Time (UTE) MRI with Rosette k-space Pattern. *Proceedings 30th Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2022*.
18. Bozyski B[§], Shen X[§], Ozen AC, Ibey S, Chiew M, Thomas A, Dydak U, **Emir UE***. Ultra-Short Echo Time 31P 3D MRSI at 3T with Novel Rosette k-space Trajectory. *Proceedings 30th Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2022*.
19. Ooms N[§], Shen X[§], Ozen AC, Ibey S, Chiew M, **Emir UE***. Pulmonary imaging Using 3D Dual-Echo FID Ultra-short Echo Time MRI with Rosette k-space Pattern: Introduction and Feasibility. *Proceedings 30th Scientific Meeting, International Society for Magnetic Resonance in Medicine, 2022*.
20. Farley N[§], Mahoney W^u, Keehn B, **Emir UE***. Single-Voxel Spectroscopic Imaging. *OHBM Annual Meeting, 2022*.

21. Maharaj DD, Abbaslou M, Tabbassum S, Gottberg A, Marchetto M, Tun Z, **Nie LH**, Kester O, Marquardt D, Laxdal R. A Prototype Compact Accelerator Driven Neutron Source for Canada Supporting Medical and Scientific Applications. Proceedings, 14th International Topical Meeting on Nuclear Applications of Accelerators, Apr.2022, Page 31-40
22. Webb A, Antipova O, Gu H, Du Y, Zheng W, **Nie LH***. Distribution of Lead, Selenium, and Other Metals in TgSWDI Transgenic Mice after Sub-chronic Lead Exposure. Abstract published and work presented at the ISTERH meeting, June 5-10, 2022; Aachen, Germany.
23. Webb A, Antipova O, Gu H, Du Y, Zheng W, **Nie LH***. Investigating Metal and Amyloid-beta Plaque Distribution in TgSWDI Transgenic Mice after Subchronic Lead Exposure using Synchrotron X-ray Fluorescence. Abstract accepted and work presented at the annual American Association of Physicist in Medicine (AAPM) meeting, July 10-14, 2022; Washington DC.
24. Webb A, Antipova O, Gu H, Du Y, Zheng W, **Nie LH***. *Investigating the Effects of Subchronic Pb Exposure on Metal Distribution in TgSWDI Transgenic Mice using Synchrotron X-ray Fluorescence*. Abstract accepted and work presented at the annual Society of Toxicology (SOT) meeting, March 27-31, 2022; San Diego, CA.
25. Webb A, Antipova O, Gu H, Du Y, Zheng W, **Nie LH***. *Distribution of Pb and Se in Mouse Brain Following Subchronic Pb Exposure by Using Synchrotron X-ray Fluorescence*. Abstract accepted and work presented at European XFEL User's Meeting, January 25, 2022; Virtual meeting.
26. Webb A, Antipova O, Gu H, Du Y, Zheng W, **Nie LH***. *Investigating Metal and Amyloid-Beta Plaque Distribution in TgSWDI Transgenic Mice after Sub-chronic Lead Exposure using Synchrotron X-ray Fluorescence*. AAPM Ohio Valley Chapter, May.21, 2022
27. Yue S, Tabbassum S, Jaye E, Anderson C, **Nie LH***. An Introduction to Sodium Kinetic Behavior Study in Humans Based on In Vivo NAA (IVNAA). AAPM Ohio Valley Chapter, May.21, 2022
28. Qihong He, Qi Wang, Hong Yuan, and Yen-Yu Ian Shih, "Phase incrementing magnetic resonance spectroscopic imaging (pi-MRSI) for fast biomarker imaging towards early detection of treatment responses of human breast cancer." 2023 Women's Health Symposium, organized by the Women's Global Health Institute (WGHI), Purdue University, Sept. 6, 2023 (Poster)
29. Chang YH, Beatty M, Stepp N, **Stantz K***. Differential X-Ray Dose-Response of IFN β in MCC13, MCC26 and UISO Cancer cells. Radiation Research Society Conference, 2022. (poster)
30. Chang YH, Miles D, Harter P, Pawar J, Hu CD, **Stantz K***. Immune Response Induced by Radiation with high- and low-LET under different oxygen level. Biophysical Journal 121(3):212a, 2022.
31. Almalki A, Miles D, Stewart R, **Stantz K***. Develop a Treatment Plan that would Result in Highly localized IFN beta Production in Well-Oxygenated Tumor Cells. Med Phys 49(6):E392-E393, 2022.
32. Vieceli M, Almalki A, **Stantz K***. Determining the Feasibility of Integrating Laser Plasma Accelerated Proton Beams and Thermoacoustic Dose Imaging Into a Small Animal Image-Guided Therapy Platform. Med Phys 49(6):E701, 2022.
33. Trebley A, **Stantz K***. Effect of Cancer Therapies on Metastatic Areas Analyzing the Functionality of Blood Vessels Using DCE- CT. Ohio River Valley Chapter of AAPM Spring Conference, 2022. (oral presentation, unpublished)
34. Chang YH, Stepp NA, George JA, Bottini L, **Stantz KM***. Investigating the Optimal Dose and Fractionation to Induce an Immune Response By Ionizing Radiation, 65th Annual Meeting & Exhibition, 2023
35. Monsivais H, Goñi J, **Dydak U**. A Network Based Approach to Identify Key Brain Regions Involved in Storing and Propagating Manganese to Other Brain Regions Using MRI. AAPM Annual Meeting, Houston, TX, July 23-27, 2023.
36. Durham P, Monsivais H, Nossa G, Foti D, Zhou X, **Dydak U**. Reliability of Single Voxel MRS methods for Glutamate Measurements at 3T. AAPM Annual Meeting, Houston, Texas, United States, July 23-27, 2023.

37. Bozymski B, Ooms NA, **Dydak U**. Optimizing a Clinically Feasible 31P Liver MRSI Protocol at 3T *ISMRM Annual Meeting, Toronto, Canada, June 3-8, 2023*
38. Ooms NA, Monsivais H, **Dydak U**. T2* Mapping to Assess Hashimoto's Thyroiditis vs Healthy Thyroid at 3.0 T: Feasibility. *ISMRM Annual Meeting, Toronto, Canada, June 3-8, 2023*
39. Nossa G, Monsivais H, Lee CG, Park JH, **Dydak U**. Exposure to Welding Fumes: Evaluating the Metabolite-Metal Relationship. *ISMRM Annual Meeting, Toronto, Canada, June 3-8, 2023*
40. Durham P, Monsivais H, Nossa G, Foti D, Zhou X, **Dydak U**. Reliable Glutamate Measurements at 3T: Which Sequence should I Choose? *ISMRM Annual Meeting, Toronto, Canada, June 3-8, 2023*
41. Monsivais H, Nossa G, Martinez MA, **Dydak U**. Comparison of MRI Methods for Iron Imaging in the Human Brain. *Society of Toxicology 62nd Annual Meeting, Nashville, Tennessee, March 19-23, 2023*
42. Nossa G, Martinez MA, Ahmed K, Monsivais H, **Dydak U**. What does Neuroimaging of the Cerebellum in Welders Exposed to Manganese tell us about Mood Changes? *Society of Toxicology 62nd Annual Meeting, Nashville, Tennessee, March 19-23, 2023*
43. Martinez Ortiz MA, Nossa G, Monsivais H, Snyder S. Zauber S.E., **Dydak U**. What does Neuroimaging of the Cerebellum in Welders Exposed to Manganese tell us about Motor Function? *Society of Toxicology 62nd Annual Meeting, Nashville, Tennessee, March 19-23, 2023*
44. Martinez MA, Monsivais H, Nossa G, Dydak U. Sex Differences and Hemispheric Laterality in Iron Deposition in Deep Cerebellar Nuclei. Annual Symposium, Purdue Women's Global Health Institute, West Lafayette, IN, Nov 9, 2022
45. Durham PE, Monsivais H, Nossa G, **Dydak U**. Reproducibility of Measuring Glutamate with MRS. *Purdue College of Health and Human Sciences (HHS) Fall Research Day, West Lafayette, IN, Nov 3, 2022*
46. Nossa G, Monsivais H, Lee CG, **Dydak U**. Evaluating the neurotransmitter-metal relationship in welders. *Magnetic Resonance Spectroscopy Workshop 2022, Lausanne, Switzerland, Aug 22-24, 2022.*
47. **Dydak U**, Stucky L, Francis G, Monsivais H. Quantifying brain manganese levels by MRI: What is considered harmful?, *International Conference of Trace Elements and Minerals (ICTEM), Aachen, Germany, June 5-10, 2022 (oral presentation)*
48. Monsivais H, **Dydak U**. Increased manganese brain levels in welders revealed by voxel-based quantification (VBQ). Spring Meeting of AAPM's Ohio River Valley Chapter, Location, May 21, 2022. **(Second-place oral presentation winner).**
49. Monsivais H, Shen X, Susnjar A, Özen AC, Ilbey S, Chiew M, Karnik A, Emir U, **Dydak U**. Iron Imaging with 3D Multi-Gradient Recalled Echo (3D-mGRE) and 3D Ultra-short Echo (3D-UTE) Sequences: A Phantom Comparison Study. *Joint Annual Meeting ISMRM-ESMRMB & ISMRT 31st Annual Meeting, London, England, UK, 07-12 May 2022. (Purdue Graduate Student Government (PGSG) Travel Award and ISMRM Trainee Stipend)*
50. Bozymski B, Shen X, Özen AC, Ilbey S, Thomas A, Chiew M, **Dydak U**, Emir U. ISMRM Ultra-Short Echo Time 31P 3D MRSI at 3T with Novel Rosette k-space Trajectory. *Joint Annual Meeting ISMRM-ESMRMB & ISMRT 31st Annual Meeting, London, England, UK, 07-12 May 2022.*
51. Nossa G, Lee CG, Monsivais H, **Dydak U**. Exposure study: Evaluating the neurotransmitter-metal relationship in welders. *3rd Annual HSCI Research Retreat, Purdue University, Apr 15, 2022*
52. Monsivais H, **Dydak U**. Increased manganese brain levels in welders revealed by voxel-based quantification (VBQ). & *HHS Spring Research Day, Mar 25, 2022 and 3rd Annual HSCI Research Retreat, Purdue University, Apr 15, 2022*
53. Stucky L, Francis G, Monsivais H, Dydak U. Variability of the Pallidal Index as a Marker of Brain Manganese Levels. *Purdue Undergraduate Research Conference, April 11, 2022.*
54. Stucky L., Monsivais H, Francis G, **Dydak U**. Variability of the Pallidal Index as a Marker of Brain Manganese Levels. *Society of Toxicology 61st Annual Meeting, San Diego, March 27-31, 2022; 3772*