

# Medical Physics - 2013 Student publications, abstracts, and presentations

Student Supported Research (underlined)

## Peer-reviewed Publications: 6

1. Dant JT, Richardson R, Nie LH. Monte Carlo Simulation of Age-dependent Radiation Dose from Alpha- and Beta-emitting Radionuclides to Critical Trabecular Bone and Bone Marrow Targets, *Physics in Medicine and Biology*, 58(2013)3301-3319
2. Liu Y, Koltick D, Byrne P, Zheng W, and Nie LH. Development of a Transportable Neutron Activation Analysis System to Quantify Mn in Bone *In Vivo* – Feasibility and Methodology, *Physiological Measurement*, 34(2013)1593-1609
3. Shin YW, Dzemidzic M, Jo HJ, Long Z, Medlock C, Dydak U, Goddard AW (2013). Increased resting-state connectivity between the anterior cingulate cortex and the precuneus in panic disorder. *J Affect Disord.* 150(3):1091-5. *PMCID 3759545*
4. Long Z, Medlock C, Dzemidzic M, Shin YW, Goddard A, Dydak U (2013). Decreased GABA levels in Anterior Cingulate Cortex/Medial Prefrontal Cortex in Panic Disorder. *Prog Neuropsychopharmacol Biol Psychiatry* 44:131-5, *PMCID 3758115*
5. Cheng CW, Das I J, Srivastava SP, Zhao L, Wolanski M, Simmons J, Johnstone PAS, Buchsbaum JC, Dosimetric comparison between proton and photon beams in the moving gap region in cranio-spinal irradiation (CSI), *Acta Oncologica*, 52 (3), 553–560 2013.
6. Srivastava, S, Das IJ, Kumar A, Johnstone PAS Cheng CW, Impact of rectal balloon filling materials on the dosimetry of prostate and organs at risk in photon beam therapy, *J Appl Clin Med Phys*, 14(1), 81-91, 2013 doi: 10.1120/jacmp.v14i1.3993.

## Published Abstracts and Presentations: 33

1. Liu YZ, Koltick DS, Byrne P, Zheng W, Nie LH (2013). Development of a transportable neutron activation analysis system to quantify manganese in bone in vivo – Feasibility and methodology. *Toxicologist* 132(1):1179. Project presented at 2013 SOT meeting, Mar.10-14, San Antonio, TX
2. Specht A, Weisskopf MG, Nie LH. Portable XRF technology to quantify lead and strontium in bone *in vivo* – calibration and validation. *Toxicologist* 132(1):1510. Project presented at 2013 SOT meeting, Mar.10-14, San Antonio, TX
3. Nie LH, Liu Y, Koltick D, Byrne P, Zheng W. Transportable neutron activation analysis system to quantify manganese in bone *in vivo*. Abstract accepted and project presented at 2013 IEEE NSS/MIC/RTSD meeting, Oct.27-Nov.2, Seoul, South Korea

4. **Specht A**, Weisskopf M, **Nie LH**. Calibration and improvement of a portable XRF technology to quantify lead in bone in vivo. Abstract accepted for the SOT 2014 annual meeting, Phoenix, Arizona, Mar. 23-27, 2014
5. **Liu Y**, Koltick D, Zheng W, **Nie LH**. Development of a transportable neutron activation analysis system to quantify manganese in bone in vivo – system setup and validation. Abstract accepted for the SOT 2014 annual meeting, Phoenix, Arizona, Mar. 23-27, 2014
6. **Long Z**, Jiang Y-M, Li X-R, Xu J, Long L, Zheng W, Murdoch JB, **Dydak U**. In Vivo Measurement of Neurotoxic Changes in Manganese-exposed Smelters and Welders, 43rd Annual Meeting of the Society for Neuroscience, San Diego, CA, Nov 9-13, 2013.
7. **Yeh CL, Dharmadhikari S, Long Z**, McGlothlan JL, **Dydak U**, Guilarte TR. Cortical Manganese Accumulation in the Non-Human Primate Brain Measured by MRI, Ohio Valley Chapter of the Society of Toxicology, Louisville, KY, USA, Sept. 23, 2013.
8. **Long Z, Yeh CL, Ma R, Dharmadhikari S**, Ward E, Snyder S, Zauber E, Rosenthal F, **Dydak U**. Metabolic Vulnerability of Frontal Cortex to Occupational Manganese Exposure, Ohio Valley Chapter of the Society of Toxicology, Louisville, KY, Sep 23, 2013.
9. **Ma R**, Ward E, **Long Z**, Snyder SA, Murdoch JB, Bainter J, **Yeh CL, Dharmadhikari S**, Zauber SE, Rosenthal F, **Dydak U**. Brain GABA Levels Correlate with Manganese Exposure in Welders, Ohio-Valley chapter of Society of Toxicology, Louisville, KY, USA, Sept 23 2013.
10. **Ma R, Long Z**, Jiang Y-M, Li X-R, Edden RAE, Murdoch JB, **Dydak U**. Increase in Thalamic GABA Levels in Mn-exposed Workers, 2nd Cardiff International Symposium on MRS of GABA. Cardiff, UK, Sept 12-13 2013.
11. **Long Z**, Murdoch JB, **Ma R, Dydak U**. GABA Fitting for MEGA-PRESS Sequences using LCModel, 2nd Cardiff International Symposium on MRS of GABA. Cardiff, UK, Sept 12-13 2013.
12. **Poole V**, Breedlove K, Abbas K, Shenk T, Robinson M, Leverenz L, Nauman E, **Dydak U**, Talavage T. Spectroscopic Analysis of Neuro-metabolic Changes in Female Soccer Players. 2013 OHBM Annual Meeting in Seattle, WA. June 2013.
13. **Ward E**, Rosenthal F, Zimmerman N, **Dydak U**. Manganese Exposure Assessment – The Use of Toenails as Biomarker of Manganese Exposure. Annual Meeting AIHCE, Montreal, Canada, May 18-23, 2013.
14. **Long Z**, Jiang Y-M, Li X-R, Xu J, Long LL, Zheng W, Murdoch JB, **Dydak U**. In Vivo Measurement of Neurotoxic Changes in Manganese-exposed Smelters and Welders, Campbell-Klatte Annual Symposium, Indianapolis, Indiana, May 21, 2013
15. **Dharmadhikari S**, McGlothlan JL, Edden R, Barker PB, Schneider J, **Dydak U**, Guilarte TR. Neurochemical Alterations in Non-human Primates Following Manganese- exposure: A 1H Magnetic Resonance Spectroscopy Study, Campbell-Klatte Annual Symposium, Indianapolis, Indiana, May 21, 2013.
16. **Clevenger T, Panda A, Jones S**, Sandrasegaran K, Cardenes H, **Dydak U**. 31P MRSI as an Early Indicator of Response to Radiation Treatment in Liver Cancer. *ISMRM 20th Scientific Meeting & Exhibition, Salt Lake City, UT, USA, April 20-26 2013. Proc. Intl. Soc. Mag. Reson. Med. 21:5896*
17. **Dharmadhikari S, Dydak U**, Dziedzic M, Romito L, Byrd K. Single voxel MEGA-edited GABA and short TE 1H MRS in hippocampus and other brain regions implicated in bruxism. *ISMRM 21st Scientific Meeting & Exhibition, Salt Lake City, UT, USA, April 20-26 2013. Proc. Intl. Soc. Mag. Reson. Med. 21:4185*

18. **Long Z**, Jiang Y-M, Li X-R, **Xu J**, Long LL, Zheng W, Murdoch JB, **Dydak U**. GABA levels correlates with occupational manganese exposure and motor tests in smelters. *ISMRM 21st Scientific Meeting & Exhibition, Salt Lake City, UT, USA, April 20-26 2013. Proc. Intl. Soc. Mag. Reson. Med. 21:2120*
19. **Long Z**, Jiang YM, Li XR, **Xu J**, Long LL, Zheng W, Murdoch JB, **Dydak U**. Comparison of Brain Metabolite Changes in Manganese-exposed Welders and Smelters. *ISMRM 21st Scientific Meeting & Exhibition, Salt Lake City, UT, USA, April 20-26 2013. Proc. Intl. Soc. Mag. Reson. Med. 21:2128,*
20. **Poole V**, Leverenz L, Nauman E, Talavage T, Dydak U. 1H MRS Suggests Chronic and Acute Injury in High School Football Players. *ISMRM 21st Scientific Meeting & Exhibition, Salt Lake City, UT, USA, April 20-26 2013. Proc. Intl. Soc. Mag. Reson. Med. 21:4317, Abstract*
21. **Dharmadhikari S**, McGlothlan JL, Edden R, Barker P, Schneider J, Guilarte TR, **Dydak U**, Guilarte TR. Neurochemical alterations in the non-human primate brain during chronic exposure to manganese: a 1H MRS study. *Society of Toxicology 52nd Annual Meeting, San Antonio, TX, USA, March 10-14 2013. Toxicol Sci suppl. 132(1):1866*
22. **Long Z**, Jiang YM, Li XR, Xu J, Long LL, Zheng W, Murdoch JB, **Dydak U**. Elevated Regional Signal Intensity Indices in Mn-exposed Welders. *SOT Annual Meeting, San Antonio, TX, USA, March 10-14 2013. Toxicol Sci suppl. 132(1):1866*
23. **Dharmadhikari S**, **Yeh CL**, McGlothlan JL, Edden R, Barker P, Schneider J, Guilarte TR, **Dydak U**, Guilarte TR. MRI and 1H MRS evaluation of chronic manganese exposure in non-human primates. *AAPM ORVC Spring Educational Symposium, March 1-2, 2013.*
24. **Stantz K**, **Alsanea F**, Moskvina V. Use of Radiation-Induced Ultrasound to Image Proton Dosimetry. *Medical Physics 40:546, 2013. BEST IN PHYSICS (THERAPY)*
25. **Cao N**, Song S, **Shaffer MR**, Maleki T, Cao M, Cao C, **Stantz KM**, Ziaie B, Ko S. Monitoring the Radiosensitizing Effects of Implantable micro-oxygen Generator in Pancreatic Cancer Xenografts. *International Journal of Radiation Oncology, Biology, Physics 84(3):S699, (Nov) 2013.*
26. **Wu J**, **Wu H**, et al. Feasibility study of prostate seed implant with Intensity Modulated Proton Therapy boost. *AAPM 2013, Medical Physics: Vol. 40, issue 6, p, 359.*
27. **Wu J**, **Wu H**, et al. Feasibility study of intensity modulated proton therapy (IMPT) for boost treatment in locally advanced cervical cancer. *Indiana University Melvin and Bren Simon Cancer Center's Cancer Research Symposium.*
28. for Dosimetry in Proton Beam Therapy, *Med Phys, 40(6), 222, 2013.*
29. Roy A, **Das I**, **Srivastava S**, Nohadani O. Analysis of Planner Dependence in IMRT, *Med Phys, 40(6), 260, 2013.*
30. **Srivastava S**, **Das I**, Cheng C, Radiobiological Implication of Margin for Target Expansion in Head and Neck IMRT with Daily IGRT, *Med Phys, 40(6), 348, 2013.*
31. **Srivastava S**, **Das I**, Cheng C, Nohadani O. Study the Effect of Grid Size On Head and Neck IMRT Dosimetry, *Med Phys, 40(6), 351, 2013.*
32. **Streit KN**, Tann M, Lea WB, Johnson MS, Fletcher JW, **Hutchins GD**. "Quantitative PET imaging following [Y-90] selective internal radiation therapy (SIRT): Reconstruction algorithm induced bias." In *Society of Nuclear Medicine Annual Meeting Abstracts, 54, 2141: Soc Nuclear Med, 2013.*
33. Tann M, **Streit KN**, Lea W, Johnson MS, **Hutchins GD**, Fletcher JW. "Pet/Ct Dosimetric Mapping of Y-90 Theraspheres Biodistribution Following

Radioembolization for Hepatocellular Cancer.” In Society of Nuclear Medicine Annual Meeting Abstracts, 54, 12: Soc Nuclear Med, 2013.